



THE UNIVERSITY *of* EDINBURGH

This thesis has been submitted in fulfilment of the requirements for a postgraduate degree (e.g. PhD, MPhil, DClinPsychol) at the University of Edinburgh. Please note the following terms and conditions of use:

This work is protected by copyright and other intellectual property rights, which are retained by the thesis author, unless otherwise stated.

A copy can be downloaded for personal non-commercial research or study, without prior permission or charge.

This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the author.

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the author.

When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given.



**Exploring the role of Self-Compassion and Perfectionism in
the prediction of Psychological Distress and Psychological
Well-Being in Adolescents: A Research Portfolio**

Kim Campbell

Doctorate in Clinical Psychology

The University of Edinburgh

March 2017

DClinPsychol Declaration of Own Work

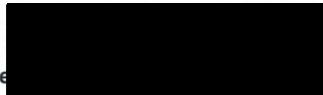
Name: Kim Campbell

Title of Work: Exploring the role of Self-Compassion and Perfectionism in the prediction of Psychological Distress and Psychological Well-Being in Adolescents: A Research Portfolio

I confirm that this work is my own except where indicated, and that I have:

- Read and understood the Plagiarism Rules and Regulations
- Composed and undertaken the work myself
- Clearly referenced/listed all sources as appropriate
- Referenced and put in inverted commas any quoted text of more than three words (from books, web, etc.)
- Given the sources of all pictures, data etc. that are not my own
- Not made undue use of essay(s) of any other student(s), either past or present (or where used, this has been referenced appropriately)
- Not sought or used the help of any external professional agencies for the work (or where used, this has been referenced appropriately)
- Not submitted the work for any other degree or professional qualification except as specified
- Acknowledged in appropriate places any help that I have received from others (e.g. fellow students, technicians, statisticians, external sources)
- Complied with other plagiarism criteria specified in the Programme Handbook
- I understand that any false claim for this work will be penalised in accordance with the University regulations
- Received ethical approval from the School of Health in Social Science, University of Edinburgh
OR
- Received ethical approval from an approved external body and registered this application and confirmation of approval with the School of Health in Social Science's Ethical Committee

Signature



Date 4/5/7

Please note:

- If you need further guidance on plagiarism, you can:
 - Speak to your personal tutor or supervisor
 - View university regulations at <http://www.ed.ac.uk/schools-departments/academic-services/policies-regulations>
- Referencing for most assessed work should be in the format of the BPS style guide, which is freely available from the BPS web site

Acknowledgements

Firstly I would like to thank Edinburgh education services for allowing me to conduct my research within their schools. I am very grateful to the schools and the individual participants who gave up their time to take part in my study.

I am grateful to my academic supervisors Dr Stella Chan and Dr Emily Taylor for their support, advice and guidance throughout this process. I am also appreciative of the support and encouragement from my line manager Dr Helen Griffiths.

On a personal level, I would like to say a massive thank you to my family, in particular my dad, stepmum and sister. Talking to you all throughout this process kept my spirits up. I know that I was often stressed and grumpy, but I never took your support for granted. Thank you also to my extended family - The Campbells, I consider myself very lucky to have your support in whatever I do. A special thanks to my friends and fellow cohort for being there to offer advice and often much needed distractions!

Finally, I would like to give my biggest thanks to my husband Michael who has shown me unlimited patience, kindness and love. Michael - you are the most wonderful person I know. You never let me give up and were always there with words of encouragement and constant hugs especially at times when I just couldn't get tables to format properly! I would never have got through this without your support and for that I will always be eternally grateful.

TABLE OF CONTENTS

<i>Abstract</i>	1
SYSTEMATIC REVIEW	4
<i>Abstract</i>	5
<i>Introduction</i>	6
<i>Method</i>	18
Search strategy	18
Search results	19
Critical appraisal	19
<i>Results</i>	24
Characteristics of included studies.....	24
Quality of included studies.....	25
Clarity of research	38
Representativeness.....	38
Confounding Variables.....	39
Outcome measures.....	39
Statistical Analysis	40
Overall quality of methodology	41
Summary of main findings in the context of methodological quality of studies.....	41
<i>Discussion</i>	47
<i>References</i>	55
JOURNAL ARTICLE	64
<i>Abstract</i>	65
<i>Introduction</i>	66
Aims and Hypotheses.....	66
<i>Methodology</i>	84
Design.....	84
Participants.....	84
Procedure.....	84
Measures	85
Ethical approval.....	89

Statistical Analysis	89
Data screening	92
Missing data.....	93
<i>Results</i>.....	<i>94</i>
<i>Discussion</i>.....	<i>105</i>
Limitations.....	111
Clinical and Theoretical Implications.....	112
Conclusions.....	113
<i>References</i>.....	<i>115</i>
<i>References across whole thesis</i>	<i>130</i>

Total word count excluding references and appendices: 21, 278

FIGURES, TABLES AND APPENDICES

Figures

Figure 1.1: Systematic Review Flowchart Process	23
-------------------------------------------------------	----

Tables

Table 1.1: Data Extraction Table	26
Table 1.2: Quality criteria scores	36
Table 2.1: Participant demographic details	94
Table 2.2: Descriptive statistics for all variables	95
Table 2.3: Bivariate correlation between perfectionism and self-compassion (associated <i>p</i> values)	96
Table 2.4: Summary of multiple regression analysis (perfectionism and psychological distress ¹ and perfectionism and psychological well-being)	98
Table 2.5: Summary of multiple regression analysis (self-compassion and psychological distress ² and self-compassion and psychological well-being ²)	99
Table 2.6: Hierarchical multiple regression of model of predictors of psychological distress	101
Table 2.7: Hierarchical multiple regression of model of predictors of psychological well-being.	103
Table H.1: Skewness and kurtosis, standard error (SE) and z-scores	174

Appendices

Appendix A: Author Guidelines - Developmental Psychology Journal	151
Appendix B: Excluded Studies and Rationale	157
Appendix C: Quality Criteria	158
Appendix D: Parental Information Sheet and Opt out form	164
Appendix E: Participant Information Sheet and Consent Form	167
Appendix F: Participant Debriefing Form	171
Appendix G: Ethics Approval Letters	172
Appendix H: Additional Statistics	174

Abstract

Background: Previous research has reported positive correlations between perfectionism, anxiety and depression within community adolescent samples. Psychological distress has the potential to develop into adulthood; therefore consideration is required about potential mechanisms that could positively impact on this trajectory. Self-compassion has been shown to be negatively associated with psychopathology and positively related to psychological well-being. It has also been found to be inversely related to maladaptive perfectionism (negative aspects of perfectionism) in adult populations. No previous studies have examined both constructs of perfectionism and self-compassion in an adolescent population and what impact they may have on psychological distress and well-being.

Aims: This research had two aims: 1. Conduct a systematic literature review exploring the relationship between perfectionism and anxiety/stress in young people; 2. Establish empirically whether perfectionism and self-compassion have a role in the prediction of psychological distress and psychological well-being in an adolescent population.

Method: For the first aim a systematic review of the literature was conducted to identify studies that explored the relationships between perfectionism and anxiety/stress in young people. Fourteen papers were identified which were subsequently subjected to methodological appraisal using quality criteria. To address the second aim an empirical study was conducted. It was a cross-sectional,

quantitative design using self-report surveys, in an adolescent population (n=128; 64.1% female, mean age 16.24 years) across schools in Edinburgh.

Results: The results of the systematic review suggested that there is a significant relationship between perfectionism and anxiety and/or stress in young people; however, some inconsistent results were found between the perfectionism subtypes and their impact on anxiety. Methodologically, the studies held good internal validity, but external validity was poor meaning that the ability to generalise findings beyond the remit of the studies was questionable. The results of the empirical study demonstrated a significant relationship between perfectionism and self-compassion and a subsequent relationship with psychological distress and psychological well-being in the adolescent population. An interaction effect between perfectionism and self-compassion was also established for some of the variables, with self-compassion playing a particularly significant role in this relationship.

Conclusions: Overall, there is evidence to suggest a link between perfectionism and psychopathology in adolescents. The factors of perfectionism and self-compassion demonstrated a significant relationship, with both constructs having an impact on psychological well-being in particular. Self-compassion demonstrated a strong predictive relationship to both psychological distress and psychological well-being. The significant findings regarding self-compassion in particular suggest that it may be a potential strategy for working with young people (either clinically or in academic settings) who experience psychological distress related to

perfectionistic tendencies. Further research exploring perfectionism and self-compassion and the link with psychopathology in adolescents is much needed. In particular, studies are required which attempt to focus on this area with alternative designs (non cross-sectional), different methodologies and various clinical and non-clinical adolescent populations.



The Relationship between Perfectionism and Anxiety/Stress in Children and Adolescents: A Systematic Review

Kim Campbell^{1*}, Dr Stella Chan², Dr Emily Taylor³

¹ East CAMHS Team, Templeton Business Centre, Glasgow

^{2, 3} Department of Clinical Psychology, School of Health in Social Sciences, University of Edinburgh, Edinburgh, UK.

*Requests for reprints should be addressed to Kim Campbell, East CAMHS Team, Templeton Business Centre, Glasgow. Email: kim.campbell11@nhs.net.

This review has been written in accordance with the Developmental Psychology journal
(See Appendix A)

Abstract

Perfectionism has been conceptualised as a multidimensional construct with both adaptive and maladaptive elements and intrapersonal and interpersonal influences. Anxiety and stress are prevalent in children and adolescents, with detrimental trajectories into adulthood. Perfectionism has been suggested as a risk factor for anxiety in this population. A systematic review was conducted on 14 studies exploring the relationship between perfectionism and stress/anxiety with children and adolescents. The majority of studies reported a significant relationship between perfectionism and anxiety and/or stress, albeit some inconsistent results were found between the specific factors of perfectionism and their impact on anxiety. The studies held good internal validity but the ability to generalise findings beyond the remit of the studies was questionable. Further research is required using a consistent conceptualisation of perfectionism and measurement of stress as well as further studies exploring the specific relationship between stress and perfectionism. It is anticipated that expanding the knowledge base in perfectionism and its impact on anxiety/stress will assist in supporting parents and those working with young people.

Keywords: Perfectionism, Anxiety, Stress, Children, Adolescents

Introduction

Conceptualisations of Perfectionism

Perfectionism has been described as a personality construct with both intrapersonal and interpersonal influences. The conceptualisation of perfectionism is typically divided into three different factions: definitions in which perfectionism is a unitary concept, a dyadic concept or as a multidimensional construct. Hamachek (1978) proposed that perfectionism was a dual construct and that it goes beyond just behaviours. His main theory underpinned by cognitive theory proposed that how a person thinks internally about the behaviours can lead to perfectionism. Hamachek (1978) expressed perfectionism in two forms: normal perfectionists and neurotic perfectionists. Normal perfectionists are able to recognise their own strengths and set realistic boundaries and expectations for themselves. Neurotic perfectionists are unable to do this and instead focus on thoughts of failing and therefore often do not attempt tasks due to the strength of these cognitions. Hamachek (1978) theory of perfectionism was innovative at the time; however, whilst he acknowledged the role of cognition and particularly the role of negative and distorted thinking, he typically diagnosed perfectionism based on the behaviours individuals displayed, therefore often undermining the role of cognition despite his assertions. Additionally, Hamachek (1978) behaviours were on outcome measures and he did not focus on the precursors of perfectionism, which were more common. Pacht (1984) held similar thoughts with regards to perfectionism; however, Pacht (1984) asserted that normal perfectionism was rare and that the resulting psychopathology of perfectionism was a typical presentation and therefore perfectionism (as both

normal and neurotic) can be equally debilitating. Whilst Pacht (1984) derived his thoughts from a cognitive-behavioural standpoint, it is important to highlight that as with Hamachek (1978) a majority of their research on perfectionism was based on those from a clinical population where psychopathology was more prevalent and therefore both authors are biased towards the neurotic or negative aspects of perfectionism, what we would now understand or term maladaptive perfectionism.

Burns (1980) at a similar time was developing theory regarding perfectionism as a unitary or single construct. His research, also underpinned by cognitive theory, stated that perfectionists had an internal script for self-defeat and that their self-worth was in terms of accomplishments. Burns (1980) stated that the way in which perfectionists think and drive to reach the unattainable was self-defeating. He stated that perfectionists tended to hold dichotomised, black and white cognitions and often their core assumptions revolved around 'should' statements, i.e. 'they should do better'. Whilst Burns (1980) research were similar to that of Pacht (1984) he was the first author to acknowledge antecedent factors regarding perfectionism. Burns (1980) believed that perfectionism was rooted in parent-child relationships, predisposing and perpetuating self-defeating cognitions. Although Burns (1980) theories of perfectionism were starting to take on a more systemic and developmental perspective and gave rise to subsequent authors who examined the origins of perfectionism, his research were very much focused on the measurement of perfectionism with a clinical population.

Current Conceptualisations of Perfectionism

Derived from the early theories mentioned, contemporary conceptualisations focus on developmental antecedents, expressed behaviours and internal cognitions about perfectionism, whilst others describe the construct in terms of expressive elements based upon measures. Recent theorists Dunkley and Blankstein (2000) propose a unitary view of perfectionism, based on the theories of Burns (1980). They state that perfectionism is due to self-critical cognitions stemming from early parent-child relationships. Dunkley and Blankstein (2000) state that self-critical perfectionism is therefore only maladaptive and is based on personality characteristics such as being overly critical, demanding of oneself and constantly striving for unrealistic expectations and achievements. Shafran *et al.*, (2002) concur with Dunkley and Blankstein (2000) and conceptualise perfectionism as a cognitive-behavioural model which emphasises the importance of self-orientated (self-critical) perfectionistic attitudes. Shafran *et al.*, (2002) research, conducted in the eating disorder population, states that clinical perfectionism is maintained by negatively biased cognitions and self-criticism as individuals attempt to achieve personally demanding tasks. Shafran *et al.*, (2002) assert that perfectionism is further maintained by the constant re-evaluation of standards and goals as never being high enough and that individuals high in perfectionism will pursue these despite possible adverse consequences (Shafran *et al.*, 2002). The authors also state that perfectionism is only dominant in one domain (of the most importance to them) and although acknowledgement is made to the role of interpersonal influences, it is described as a related construct and not central to perfectionism. On reflection of Shafran *et al.*, (2002), their conceptualisation is largely based on

clinical applications of perfectionism with the eating disorder population and therefore relatively limited. There is also failure to acknowledge previous research and evidence which substantiates other factors of perfectionism and how systemic influences (environmental and dynamic factors) impact on levels of perfectionism. Additionally, some of the arguments presented are contradictory. In particular, Shafran and colleagues (2002) highlight the negative impact of perfectionism on the therapeutic alliance (an interpersonal relationship); however dismiss the importance of interpersonal dimensions of perfectionism. Shafran *et al* (2002) has prompted responses from Hewitt, Flett, Besser, Sherry and McGee (2002) and Dunkley *et al.*, (2006) who have argued that perfectionism is a multifaceted concept and that extensive research in the past has extended this conceptualisation (discussed later).

Contemporary dyadic conceptualisations of perfectionism attempt to divide the concept into: positive/negative, adaptive/maladaptive, normal/neurotic. Whilst slight differences exist between these dichotomies, essentially they can be perceived as comparable in that positive, adaptive and normal perfectionism are similar dimensions, whereas negative, maladaptive and neurotic are viewed as the opposite dimension (Damian *et al.*, 2017). Slade and Owens (1998) dual model of perfectionism describe the concept in relation to reinforcement theory. In Slade and Owens (1998) model, adaptive perfectionism is sustained by positive reinforcement and the need for success. Contrary, maladaptive perfectionism involves cognitions and behaviours that are driven towards achieving high goals in order to avert failure and negative consequences. This model echoes the research

of Hamachek (1978) in that normal perfectionists are focused on their strengths and completing tasks the right way, whereas neurotic perfectionists are focused on the fear of failing. In reviewing this dual model, minimal regard is given to the possibility that both adaptive and maladaptive perfectionism may co-exist. For example, an individual may be motivated to complete a task so as to achieve praise or validation but simultaneously motivated to avoid a negative outcome such as anxiety if the task is incomplete or not completed on time. Therefore, this model makes it difficult to assess both adaptive and maladaptive perfectionism in action. Additionally, other factors are not considered, such as interpersonal relationships and wider systemic issues.

The conceptualisation of perfectionism has advanced into a construct incorporating cognitive, behavioural, motivational and interpersonal elements. As a multidimensional concept, perfectionism is defined by its antecedents (Hewitt and Flett, 1991), or by a mix of antecedents and products of perfectionism (Frost, Marten, Lahart and Rosenblate, 1990). When based on antecedents, the definitions tend to focus on three ways perfectionism is effecting the individual. Therefore, they are not antecedents of issues from childhood, but rather the motivations for perfectionistic type behaviours (Bousman, 2007). The perfectionist strives for high and often unrealistic standards and attempts to avoid failing of any kind. They also expect high standards from others in their life and perceive the requirement to achieve those standards given by others in their interpersonal context. Hewitt and Flett (1991) state that perfectionism is therefore classified and effectively measured by the following elements: Self-orientated perfectionism (SOP) where the

individual believes that they have to be perfect, Other-orientated perfectionism (OOP) where the individual gives others unrealistic expectations and harsh evaluation and Self-prescribed perfectionism (SPP) where the individual perceives that others expect perfection from them. These factors are measured together through the use of the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991).

Another multidimensional conceptualisation that defines perfectionism combines a mix of antecedents with outcomes and is a six factor model as proposed by Frost *et al.*, (1990). The antecedent aspect of this model relates to parental criticism and parental expectations whilst the other four elements relate to outcomes or behavioural aspects: doubts about actions, concerns over mistakes, high standards and organisation (Frost *et al.*, 1990; Bousman, 2007). A perfectionist would score in the extreme in these items. Comparing both multidimensional conceptualisations of perfectionism, the six factor model has elements that explore parental influences; however it is much focused on self-orientated factors and therefore limited in its conceptualisation. The former three factor model takes into consideration the elements of how perfectionism is directed - the self, others and the social environment and therefore provides a more comprehensive perspective exploring the influences of intrapersonal and interpersonal factors. Considering the three factor model further, it is only the two factors of SOP and SPP that are often reported and researched. There is little research exploring OOP. The items pertaining to OOP is collapsed into the dyad of SPP or SOP for purpose of reporting and not explored as a separate entity. Therefore, few research studies

have investigated its specific role in the conceptualisation of perfectionism and with psychopathology. Research conducted by Stoeber (2014) has suggested that OOP can be linked to narcissism and psychopathy and describes OOP as the 'dark' form of perfectionism. Although the three factor model of perfectionism is more frequently used in the research field, the recent assertions proposed by Stoeber (2014) highlight that there are gaps in the use of this model and that further research is required exploring how each element contributes to the understanding of perfectionism.

Conceptualisation of Perfectionism in Children and Adolescents

Flett & Hewitt (2014) stated that there is extensive indication that perfectionism in children and adolescents is multidimensional. The exploration of perfectionism is pertinent in young people due to the developmental changes that occur at this time such as self-consciousness and peer influences, which can impact on self-evaluation (Flett & Hewitt, 2014). With middle childhood, pre-adolescence and adolescence comes the development of complex emotions and the formation of close relationships and attachments. Self-presentation strategies are increasingly used for impression management with peers and there is increased awareness that actions and performance leads to approval or disapproval by parents and other attachment figures (Carr, 2006). Young people therefore develop an internalised view of what standards are expected of their conduct (Kochanska, 1993).

The comprehension of perfectionism in young people has been extensively investigated using the Child and Adolescent Perfectionism Scale (CAPS) (Flett *et*

al., 2001). The scale is based on the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991) and measures intrapersonal perfectionism (SOP; self-orientated perfectionism) and interpersonal perfectionism (SPP; socially prescribed perfectionism and other orientated perfectionism) in relation to children. Further adaptations to the scale have suggested that subdividing the CAPS further into SPP, SOP-Critical (self-criticism) and SOP-Striving (striving to perfectionism) may hold stronger validity (McCreary *et al.*, 2004). McCreary and colleagues (2004) used this three factor model with a sample of African American children aged between 11-12 years and reported good validity. These findings have since been replicated by O'Connor *et al.*, (2010) in a Scottish adolescent population.

Perfectionism and Anxiety/stress in Children and Adolescents

Rates of stress and anxiety are found to be comparable to adults by the point of middle adolescence (Essau *et al.*, 2008). Anxiety and stress in adolescence can potentially lead to the development of psychopathology in adulthood (Wittchen & Essau, 1993). It is therefore important to ascertain potential precipitating and perpetuating factors that can play a part in the development of anxiety and stress in adolescence.

It has been suggested that perfectionism could be a risk factor that contributes and maintains symptoms of stress and anxiety and has been researched in a number of populations (Egan, Wade, & Shafran, 2011). Research shows that perfectionism and consequent psychopathology is more prevalent in females compared to males (Slaney & Ashby, 1996). Also, in the educational literature, it is proposed that

young people who are academically gifted experience anxiety in the context of both SOP and SPP compared to their non-gifted peers (Roberts & Lovett, 1994). It is suggested that gifted children strive to continually maintain their superior sense of self (SOP) and to meet the expectations of others such as teachers and parents (SPP) (Roberts & Lovett, 1994). Research conducted by Neumeister & Finch (2006) with gifted children showed that SOP was a positive construct (achievement, motivation and mastery) and elicited positive emotional responses and that SPP was more negative (fear of failure) and increased the prospect of anxiety. The relationship between perfectionism and anxiety (and other psychopathology) can differ across cultures (Essau *et al.*, 2008). Some research has demonstrated that perfectionism and risk of psychopathology has been found to be more prevalent in populations such as Asian Americans and African Americans (Castro & Rice, 2003) and Chinese students (Greenberger *et al.*, 2000) compared to Caucasian populations (Castro & Rice, 2003). However research is inconsistent and few attempts have been made to compare these factors across cultures.

Cross-sectional research with young people has suggested that anxiety and perfectionism are positively related; highlighting the potential of perfectionism being a risk factor (Sironic & Reeve, 2015). Within the adult literature, both SOP (critical) and SPP (measures of maladaptive perfectionism) have consistently shown a strong relationship with anxiety in non-clinical samples and are deemed a risk factor for maintaining anxiety disorders (Lo & Abbott, 2013). In contrast, positive aspects of perfectionism, i.e. measures of personal striving shows a weak relationship with anxiety, suggesting that it is not a risk factor (Lo & Abbott,

2013); however, research in this area has shown to be inconsistent when it comes to children and adolescents. Particular studies have reported a relationship between SPP and anxiety/stress, such as Hewitt *et al.*, (2002); however, others report that the association does not withstand after certain variables are partialled out, such as baseline mood (McCreary *et al.*, 2004). Similar patterns can be seen with SOP and anxiety (McCreary *et al.*, 2004). O'Connor *et al.*, (2010) suggests that the complex, dichotomised nature of SOP leads to unpredictable findings regarding the role of stress and anxiety. O'Connor and colleagues (2010) draw similarities between SOP and anxiety/stress with the diathesis-stress hypothesis in that the vulnerability related to perfectionism may be triggered by stress (Flett *et al.*, 1995).

A number of studies have shown a positive correlation between both perfectionistic striving and perfectionistic concerns in children and adolescents (Flett *et al.*, 2011; Guignard, Jacquet & Lubart, 2012). These studies used cross-sectional and correlational design therefore the predictive validity of perfectionism on anxiety is unclear and it may be that both constructs exist in a bidirectional relationship (Damian *et al.*, 2017). Longitudinal studies with adolescents have demonstrated some similar results (see Damian *et al.*, 2017). Damian *et al.*, (2017) recent longitudinal study revealed that perfectionistic concerns predicted a long term increase in symptoms of anxiety in young people over three waves spanning nine months overall; however, a similar relationship was not found for perfectionistic strivings. Anxiety symptoms did not appear to predict increases in perfectionism (Damian *et al.*, 2017). Whilst such studies as Damian *et al.*, (2017) have furthered the comprehension of the relationship between perfectionism, stress and anxiety a

number of methodological flaws deem results to be inconclusive. Studies continue to be cross-sectional and therefore causation cannot be deduced and the use of non-clinical populations means that results cannot be universally applied to clinical levels (more severe levels of anxiety). Additionally, studies frequently use inconsistent measures of perfectionistic striving which poses challenges for replication studies. Finally, longitudinal studies often do not use time points that are long enough to determine change and significant findings are often constrained to older adolescents (Damian *et al.*, 2017).

Aims of Systematic Review

Research regarding the relationship between perfectionism and anxiety/stress in adolescents is unclear. Anxiety commonly develops in adolescence and continues in adulthood; therefore future comprehension of variables affecting this level of psychological distress is required. An initial search on The Campbell Collaboration, Cochrane Database of Systematic Reviews (CDSR) and the Database of Abstracts of Reviews and Effects (DARE) ruled out any systematic reviews previously conducted in this area. Therefore the objective of the systematic review was to explore the following questions:

1. Is there a relationship between perfectionism and anxiety/stress in children and adolescents?
2. Is there a difference between the factors of perfectionism (adaptive versus maladaptive, SPP versus SOP) and anxiety/stress in children and adolescents?
3. Are there any differences between anxiety and stress and its relationship with perfectionism?

Whilst the studies being reviewed may involve other aspects of psychological distress such as depression, suicide, etc, only anxiety and stress will be the main area of focus.

Method

Search strategy

A prospective plan for conducting the systematic review was published on PROSPERO(https://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016037167). A literature search was conducted between December 2015 and October 2016. The following databases were used: MEDLINE, EMBASE, PSYCHINFO, ASSIA, CINAHL, SPORTDiscus and ERIC. The search terms used were: (perfect* OR "fear of failure" OR "high standards") AND (stress OR anxiety*) AND (adolescents OR teen* or child*). The initial search incorporated non-English studies for consideration as well as grey literature (i.e. non published dissertations).

Inclusion criteria

Final studies were only considered if they: were English language, the samples were under 18 years of age and the studies included a valid measure of perfectionism and stress/anxiety (including psychological and biological markers). All research settings and designs were included.

Exclusion criteria

Studies were excluded if they were conducted in an adult population.

Search results

The initial search combining databases across three main search engines resulted in a total of 1239 studies (MEDLINE=190, EMBASE=300, PSYCHINFO=463, ERIC=120, ASSIA==57, CINAHL=69 and SPORTSdiscus=40). A total of 14 studies were identified for review. The references of these studies were reviewed to check for further potential research; however no further papers were identified. The flowchart in Figure 1.1 outlines the process followed.

Critical appraisal

The quality of the 14 included studies were assessed. Quality criteria were developed by the author (see Appendix C) based on the Scottish Intercollegiate Guidelines Network (SIGN) 50 Guideline Developer's Handbook (SIGN, 2013). Reference was also made to the National Institute for Health and Care Excellence (NICE) quality appraisal for quantitative studies reporting correlations and associations (NICE, 2012). The author was mindful of potential issues pertaining to blinding and biases, therefore the quality criteria also referred to Cochrane's Principles of Critical Appraisal (Higgins and Green, 2008). Quality criteria were developed in light of recommendations made by Petticrew and Roberts (2006) in that "off the shelf" checklists are often not appropriate due to the specific nature they were designed for. Petticrew and Roberts (2006) also state that researchers should avoid the allocation of overall scores for assessing the quality of studies as it is more important to explore the methodology aspects of the studies individually as opposed to providing an overall score to prevent biasing readers. In the current

systematic review, inter-rater reliability was conducted by an independent researcher (a post graduate student in Clinical Psychology) who analysed 25% of the overall studies. Any differences in scoring were discussed until a score was agreed.

In order to provide a comprehensive review of the final studies, quality criteria were devised to focus on the following areas: the clarity of research, representativeness, confounding variables, outcome measures and statistics. The rationale for these groupings is that it covers the main areas pertinent for systematic reviews, as recommended by NICE (2012) and Higgins and Green (2008), and allows for collation and consideration of bias risks across the studies. Further clarification for the development of the criteria under the various areas is discussed below:

Clarity of research

Haynes (2006) states that that research questions should be formed so as to determine which clinical issues should or could be studied as well as underpinning and rationalizing the need for investigation. It was considered necessary to develop criterion to assess the preliminary research questions posed in the studies because an undefined question would prove difficult to gauge how well it has met its objectives, or how pertinent it is to the question being explored as part of the overall systematic review.

Representativeness

As recommended by NICE (2012), internal and external validity is a fundamental component in conducting empirical research; therefore it was important that studies sought to consider this as part of the methodology. Studies were reviewed in terms of internal/external validity if they considered the potential for selection bias (including inclusion/exclusion criteria) as well as ensuring diversification in the population to enhance representativeness.

Confounding Variables

The acknowledgement of possible confounding variables in discussing the outcomes of research can acknowledge potential detection biases. This is more likely if there is an absence of blinding. The concept of blinding was incorporated into the quality criteria so as to explore any evidence of detection (reporting) bias. It is recognised that blinding is not always possible particularly in cohort studies; however SIGN (2013) guidance stipulates that studies should acknowledge the presence of biases when failing to use blinding. Blinding is often not appropriate for self-report methodology as researchers are typically transparent about the rationale for the study through direct communication or information sheets. This is consistent with findings by Sheldrake (1999) who found that blinding was not used by those that performed research using questionnaires and surveys.

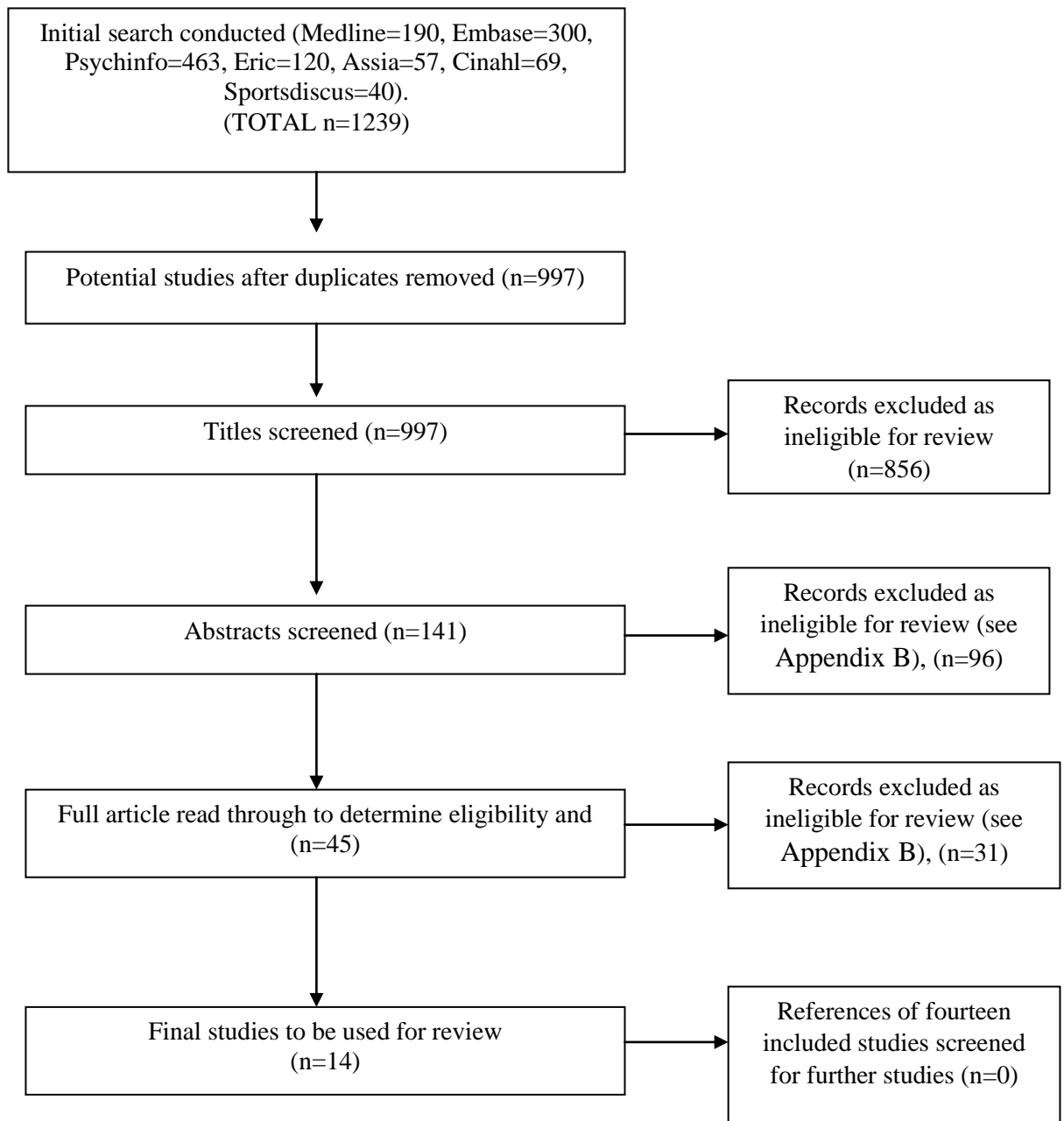
Outcome Measures

As recommended by SIGN (2013), outcome measures should be clearly stated in studies to acknowledge any risk of detection bias. There should also be evidence provided that the measures have been used in a reliable way and have previously been validated in a comparable population. Contact was made with one of the authors for further information about the data generated in the study and measures used (Krasnow *et al.*, 1999); however, no response was received.

Statistical Analysis

Criterion was devised to assess power analysis, statistical analysis and the use of confidence intervals. Where studies failed to discuss power analysis, the author referred to NICE (2012) recommendations that a power of 0.80 (that is, it is expected to witness an effect of a certain size, 80% of the time) is a conventionally accepted criterion. Effect sizes were determined by the author (if not reported), as recommended by Sink and Stroh (2006). The papers were assessed for the use of confidence intervals. This is consistent with recommendations by SIGN (2013), which state that the provision of confidence intervals with research is vital to determine the accuracy of statistical results and to discriminate between an inconclusive review and one that demonstrates no significant outcomes.

Figure 1.1: Systematic Review Flowchart Process



Results

Characteristics of included studies

Table 1.1 provides a list of the final 14 studies reviewed. The studies reviewed spanned a total of eight different countries, with a majority of the studies completed in USA. Grey material was searched, which resulted in one non-published dissertation (Arale, 2007) being included. All of the studies reviewed used a cross-sectional design and were all conducted in a school setting. Whilst a majority of the studies used general school populations, some targeted a particular population due to the nature of the research area being explored. Four studies used a gifted/academically gifted sample (Roberts and Lovett, 1994; Tan and Chun, 2014; Tsui and Mazzocco, 2007; Guignard *et al.*, 2012) and one study used a sample of adolescent dancers and gymnasts (Krasnow *et al.*, 1999). All of the studies used self-report survey methodology; however, Dibartolo and Varner (2012), Roberts and Lovett (1994) and Tsui and Mazzocco (2007) also added an experimental component to the study, i.e. an anxiety provoking task. Across all 14 studies, the total sample size was $n=3,876$ (ranging from $n=30$ to $n=1022$). The mean age across the studies was 12.8 years (ranging from 9 years to 15.5 years). A majority of the samples had a higher proportion of female participants.

Quality of included studies

Table 1.2 provides an overview of the quality for each study. Each quality criteria item had a continuum scoring guide from 0 (not met/not applicable/not reported) to 2 (well covered).

Table 1.1: Data Extraction Table

Study	Study Design, Method	No of participants, Gender Type of Sample	Mean age in years (SD) Age range	Measure of Perfectionism Factors used	Measure of Stress How stress is determined	Measure of Anxiety (clarification of score given if deemed necessary) RCMAS	Key Findings (perfectionism and anxiety/stress only)
<i>Afshar et al. (2009) (Iran)</i>	Cross sectional Self-report surveys	N=793 Females - 50.3% General school sample	14.95 (1.61) Range not known	PNPS Two factors: 'positive' and 'negative' perfectionism	-		Positive correlation between anxiety and negative perfectionism in both sexes with a large effect size (males $r = 0.577$ and females $r = 0.641$). Negative correlation between anxiety and positive perfectionism in both sexes with a small effect size (males $r = -0.107$ and females $r = -0.113$). No difference

							detected after age adjustment.
<i>Arale (2007)</i> <i>(USA)</i> <i>Unpublished dissertation</i>	Cross sectional Self-report surveys	N=75 Females - 58.6% General school sample	11.12 (SD not known) Range 8 - 14yrs	CAPS (22 item version) Two factors: SOP and SPP	-	RCMAS	Positive correlation between SOP and RCMAS with a medium effect size; 6% of variance in anxiety score was explained by SOP. The link between SPP and RCMAS was non-significant.
<i>DiBartolo & Varner (2012)</i> <i>(USA)</i>	Cross sectional Self-report surveys and experimental element.	N=103 Females - 54.4% General school sample	9.74 (1.40) Range 9 - 12yrs	CAPS (22 item version) Three factors: SPP, SOP-S and SOP-C.	-	SUDS (Fear thermometer from 0-100% rating, with 100% being highest). SUDS recorded at 10 time points over the	Children high on SPP experienced more anxiety than children low in SPP. Although non-significant they also rated performance as important and more likely to

						experiment.	say that they should have performed better at post-test debrief.
<i>Essau et al. (2008)</i> <i>(Hong Kong & Germany)</i>	Cross sectional Self-report surveys	Total n=1022: Germany: N=594, Females - 59.4% Hong Kong (HK): N=428, Females - 51.9% General school sample	Germany: 14.6 (1.6) HK: 13.8 (1.0) Range 12-17yrs	CAPS (22 item version) Two factor model: SOP and SPP	-	SCAS	In both countries, there was a significant positive correlation between anxiety and perfectionism with a medium effect size at (Germany - SOP $r = 0.22$, SPP $r = 0.23$; HK SOP $r = 0.36$, SPP $r = 0.30$). HK females had higher anxiety, SOP and SPP compared to Germany.

<i>Flett et al. (2011)</i> <i>(Canada)</i>	Cross sectional Self-report surveys	N=81 Females - 54.3% General school sample	12.8 (0.67) Range not known	CAPS (22 item version) Two factors used: SOP and SPP PCI Single factor - total score	-	PSWQ-C	PCI, SOP and SPP all had elevated levels of uncontrollable worry. Strongest correlation between PCI and worry with a medium effect size ($r = 0.37$). Rumination fully mediated between PCI and depression.
<i>GhorbanDordinejad & Nasab (2013)</i> <i>(Iran)</i>	Cross sectional Self-report surveys	N=239 Females - 53.9% General school sample	No mean/range reported - all defined as "third graders" (i.e. approx age 9yrs)	APS-R 3 factors: maladaptive perfectionists, non-perfectionists, adaptive perfectionists.	-	FLCAS	Maladaptive perfectionists had higher FLCAS scores compared to non-perfectionists and adaptive perfectionists.
<i>Guignard et al. (2012)</i> <i>(France)</i>	Cross sectional Self-report surveys	Total N=132 Gender not provided	Mean/range ages not provided. Sample are 5th and 6th	CAPS (22 item French translated version) Two factors	-	RCMAS	5th graders (11 year olds) have less anxiety compared to 6th graders (12 year

		Selective sample - academically gifted population (in school)	graders (i.e. approx age 11- 12yrs)	used: SOP and SPP			olds) but they have higher levels of perfectionism. Positive correlation between perfectionism and anxiety over the whole sample with a medium effect size ($r = 0.35$). Both SPP and SOP linked to worry/over- sensitivity factor in particular.
Hewitt et al. (2002) (Canada)	Cross sectional Self-report surveys	N=114 Females - 60.5% General school sample	12.3 (1.77) Range 10- 15yrs	CAPS (22 Item version) Two factors used: SOP and SPP.	CHS (stress) Total score for achievement stress and social stress subscales.	RCMAS	When adjusted for age: both SOP and SPP positively correlated with anxiety with a medium effect size ($r = 0.30$ and $r = 0.24$ respectively). SPP also

							positively correlated with S-Soc with a medium effect size at ($r = 0.25$). SOP interacted with S-Soc and S-Ach to predict anxiety.
<i>Krasnow et al. (1999)</i> <i>(Canada)</i>	Cross sectional Self-report surveys	N=65: Female only sample Selective sample - dancers/gymnasts (in school)	15.5 (0.5) Range 12-18yrs	MPS Scores for perfectionism*	DES/GES Scores for stress* Stress rated on a scale from -3 (extremely negative) to +3 (extremely positive). *author contacted for items scores - no response.		Total stress and negative stress were correlated with Concern over Mistakes for both modern dancers and gymnasts. Doubts about Actions was correlated only with negative stress for modern dancers with a large effect size ($r = 0.52$).
<i>O'Connor et al. (2010)</i> <i>(Scotland)</i>	Cross sectional Self-report surveys	N=737 total (baseline) Females - 49.8%	15.2(0.7) Range not	CAPS (14 item version) Three factors	Acute Life Stress measure	HADS	SPP and SOP-C were more strongly related

		N=515 (follow up/time point 2) gender split not provided General school sample	provided.	used: SOP-C, SOP-S and SPP.	Score is derived as Time 2 - Time 1 to indicate the presence of stress.		to anxiety and stress than SOP-S. Both SPP and SOP-C x Acute life stress interaction accounted for variance in anxiety (and the other distress being measured).
Roberts & Lovett (1994) (USA)	Cross sectional Self-report surveys and experimental element.	N=60 Females - 50% Selective sample - academically gifted population (in school)	13 (0.6) Range 12.6 - 14.9yrs	MPS Two factors used: SPP and SOP.	Digit Temperature - physiological measurement of stress. Recorded every 10 seconds (2 min task). Total Score=post experiment-baseline.	CAM	Gifted children had higher SOP than SPP and demonstrated higher negative affect and stress in response to perceived task failure.
Sub & Prabha (2003) (India)	Cross sectional Self-report surveys	N=200 Gender split unknown	Mean and range not provided, but states	PNPS (translated into Hindi). Factors used:	-	TAI (translated into Hindi)	SOP (negative) was positively correlated with test anxiety and

		General school sample	9 th -10 th grade (i.e. approx age 15yrs)	SOP (positive), SOP (negative), SPP (positive), SPP (negative)			worry with a small effect size ($r = 0.193$ and $r = 0.133$ respectively). SPP (negative) was positively correlated with test anxiety with a small effect size ($r = 0.168$)
<i>Tan & Chun (2014) (Singapore)</i>	Cross sectional Self-report surveys	N=225 Females only Selective sample - academically gifted population (in school)	Mean age not provided. Range 14-15yrs	APS-R Factors used: discrepancy, high standards and order.	-	AEQ	Discrepancy (associated with maladaptive perfectionists) was found to be a positive predictor of anxiety with a medium effect size ($r = 0.26$). High standards was also a predictor of anxiety with a small effect size ($r = 0.19$). There were no significant

							differences for anxiety between adaptive and maladaptive perfectionists.
<i>Tsui & Mazzocco (2007) (USA)</i>	Cross sectional Self-report surveys and experimental element.	N=30 Gender split not known Selective sample - academically gifted population (in school)	11.7 years (0.42) Range not known	MPS Two factors used: high perfectionism and low perfectionism	-	MARS-E SCARED (for initial screen only and to exclude anxiety disorder)	MARS-E and MPS were significantly correlated with a medium-large effect size at ($r = 0.496$). Three subscales of MPS were positively correlated with MARS-E: concern over mistakes, doubts over actions and parental criticism with large effect sizes ($r = 0.590$, 0.488 , and 0.502 respectively).

Measures/Scales:

CAPS=Child and Adolescent Perfectionism Scale (SPP=socially-prescribed perfectionism, SOP=self-orientated perfectionism, SOP-S = self-orientated perfectionism-Striving, SOP-C = self-orientated perfectionism-critical); SCAS=Spence Children's Anxiety Scale; SUDS = Subjective Units of Distress Scale; PCI = Perfectionism Cognitions Inventory; PSWQ-C = Penn State Worry Questionnaire for Children; APS-R = Almost Perfect Scale-Revised; FLCAS = Foreign Language Classroom Anxiety Scale; RCMAS = Revised Children and Adolescent Manifest Anxiety Scale; PNPS = Positive and Negative Perfectionism Scale; CHS = Children's Hassles Scale (S-Ach = Achievement stress, S-Soc = Social Stress); HADS - Hospital Anxiety and Depression Scale; AEQ = Academic Emotion Questionnaire; MPS = Multidimensional Perfectionism Scale; MARS-E = Mathematics Anxiety Rating Scale-Elementary; SCARED = Screen for Child Anxiety Related Emotional Disorders; DES/GES = Dance Experience Survey/Gymnastics Experience Survey; CAM = Current Affect Measure

Table 1.2: Quality criteria scores

Paper	QC 1.1 <i>Focused Question</i>	QC 2.1 <i>Sampling</i>	QC 2.2 <i>Representativeness</i>	QC 2.3 <i>Attrition</i>	QC 3.1 <i>Power</i>	QC 4.1 <i>Perfectionism Measure</i>	QC 4.2 <i>Stress measure</i>	QC 4.3 <i>Anxiety Measure</i>	QC 4.4 <i>Blinding</i>	QC 5.1 <i>Statistical Analysis</i>	QC 5.2 <i>Confounding</i>	QC 5.3 <i>Confidence intervals</i>
<i>Afshar et al. (2009) (Iran)</i>	2	1	2	1	1	2	0	2	0	2	1	2
<i>Arale (2007) (USA) Unpublished dissertation</i>	2	1	2	0	0	2	0	2	0	2	1	0
<i>DiBartolo & Varner (2012) (USA)</i>	2	0	2	2	1	2	0	1	1	2	1	0
<i>Essau et al. (2008) (Hong Kong & Germany)</i>	1	0	1	0	1	2	0	2	0	2	1	0
<i>Flett et al. (2011) (Canada)</i>	2	0	1	0	0	2	0	2	0	2	1	0
<i>GhorbanDordinejad & Nasab (2013) (Iran)</i>	1	0	0	0	1	2	0	0	0	2	1	2
<i>Guignard et al. (2012) (France)</i>	2	1	1	0	1	2	0	2	0	2	1	0
<i>Hewitt et al. (2002) (Canada)</i>	2	0	1	0	1	2	2	2	0	2	2	0

<i>Krasnow et al.</i> (1999) (Canada)	2	1	2	0	0	2	1	0	0	2	1	0
<i>O'Connor et al.</i> (2010) (Scotland)	2	0	1	1	1	2	0	2	0	2	2	2
<i>Roberts & Lovett</i> (1994) (USA)	2	1	2	0	0	2	1	0	1	2	0	0
<i>Sub & Prabha</i> (2003) (India)	1	0	0	0	1	1	0	2	0	2	0	0
<i>Tan & Chun</i> (2014) (Singapore)	1	1	0	0	1	2	0	2	0	2	0	0
<i>Tsui & Mazzocco</i> (2007) (USA)	2	0	1	2	0	2	0	2	1	2	2	0

Clarity of research

Overall, the included studies performed well against this criterion. Ten studies scored highly (2), with the remaining studies adequately addressing this criteria (1). For example, Sub and Prabha (2003) and GhorbanDordinejad and Nasab (2013) failed to provide hypotheses or objectives underpinning the rationale for the research. Additionally, whilst Essau *et al.*, (2008) and Tan and Chun (2014) stated clear research questions with assimilated aims and hypotheses, the use of key terminology within the questions and conclusions were vague and could be open to misinterpretation by the reader.

Representativeness

The potential for biases across the studies was significant. Reported details of sampling methods were poor across all studies, with most having inappropriate, insufficient or absent inclusion and exclusion criteria. Across the studies there was also a risk of possible selection bias as most failed to provide any information regarding recruitment of participants. The description of participant characteristics across the studies was good, with most providing appropriate demographic details, with the exception of GhorbanDordinejad and Nasab (2013), Sub and Prabha (2003) and Tan and Chun (2014) which stated minimal details in this regard. Only two studies provided information about attrition, stating invitation rates and drop-out rates (Dibartolo and Varner, 2012; Tsui and Mazzocco, 2007). Therefore, there was a risk of attrition bias in the remaining studies. With regards to representativeness (particularly the consideration of risk of biases), Afshar *et al.*, (2009) was the only study to demonstrate a good score across the criteria exploring

this issue, demonstrating some consideration with regards to internal and external validity.

Confounding Variables

Whilst it would appear that most of the studies performed poorly in this respect, the use of blinding was in fact not appropriate for eleven of the studies due to the use of self-report survey methodology. Dibartolo and Varner (2012), Roberts and Lovett (1994) and Tsui and Mazzocco (2007) all used an experimental component as an adjunct to the study and all demonstrated some evidence of blinding. Eight studies acknowledged possible confounders in the conclusions or limitations of the research, as opposed to part of the analysis. Three studies (Hewitt *et al.*, 2002; O'Connor *et al.*, 2010 and Tsui and Mazzocco, 2007) scored highly in this area as there was evidence of identification and incorporation of influencing variables into the statistical analysis beyond the main outcome measures being investigated. Such variables being measured included: gender, test order (the sequence of experimental tasks), type of test, time points (experimental condition) and state measures (mood). The remaining three studies failed to mention possible confounding variables.

Outcome measures

The perfectionism measures used across the studies were mostly all validated in child and/or adolescent samples (CAPS; Flett *et al.*, 1997, MPS; Frost *et al.*, 1990, APS-R; Slaney *et al.*, 2001). The only exception was Sub and Prabha (2003) that

used the PNP (Terry-Short *et al.*, 1995), which until this point had only been used with adult populations.

With regards to stress and anxiety, there were more studies exploring anxiety compared to stress; however, Hewitt *et al.*, (2002), Roberts and Lovett (1994) and O'Connor *et al.*, (2010) measured both. The four studies measuring stress used different scales. Hewitt *et al.*, (2002) scored highly in this regard using the Children's Hassles Scale (CHS; Kanner *et al.*, 1987); however, the other studies used measures that have only been used with adult populations and provided no substantiation of its use and validity with adolescents. The measurement of anxiety was good across the majority of studies in that a validated measure for children and/or adolescents was used. Roberts and Lovett (1994) used the Current Affect Measure and did not mention how this scale was developed or in what capacity it has been used in the past.

Statistical Analysis

No studies provided an *a priori* power calculation. Nine studies appeared to be adequately powered; however the remaining had small sample sizes and were likely to be underpowered. Across the studies, the analysis mostly took the form of correlation and regression, consistent with the hypotheses being explored. Only three studies (Afshar *et al.*, 2009, GhorbanDordinejad and Nasab, 2013 and O'Connor *et al.*, 2010) provided a confidence interval of 95%.

Overall quality of methodology

From reviewing the studies, whilst total scores of the quality criteria were not calculated, observations of the data extraction table suggest that two studies were the strongest methodologically: Afshar *et al.*, (2009) and O'Connor *et al.*, (2010), whereas the weakest was Sub and Prabha (2003). Overall, the quality of methodology observed over the studies suggests that whilst internal validity is good (namely study design, outcome measures, discussion of participant characteristics), the studies were weaker with regards to generalising findings beyond the remit of the study. This increases the risk of problems with external validity. The insufficient information regarding external validity factors is consistent with other reviews that state that reporting on this is provided less often than other methodological issues (Glasgow *et al.*, 2004). Steckler and McLeroy (2008) state that studies with poor external validity makes the generalisation of research findings unlikely, and that conclusions made by systematic reviews and meta-analyses can therefore be limited.

Summary of main findings in the context of methodological quality of studies

- 1. Is there a relationship between perfectionism and anxiety/stress in children and adolescent populations?*

All studies reviewed found a relationship between perfectionism and stress/anxiety to some extent in the target population being explored. Due to the methodological issues highlighted with regards to external validity across the studies, it is difficult to generalise findings beyond the remit of the actual studies. Where overall total

scores were reported, Essau *et al.*, (2008), Flett *et al.*, (2011) and Tsui and Mazzocco (2007) all reported a positive correlation between perfectionism and anxiety/stress with a medium-large effect size. Essau *et al.*, (2008) study demonstrated strong methodology, in particular the use of validated measures and achievement of likely power in light of a large sample size. In contrast, the findings of Flett *et al.*, (2011) and Tsui and Mazzocco (2007) should perhaps be treated with caution due to the fact that these were underpowered; however, Flett *et al.*, (2011) also detected a strong correlation between perfectionistic cognitions and worry (with a medium effect size) and that this relationship was fully mediated by rumination. This study used more than one measurement of perfectionism (perfectionistic cognitions), which is likely to give some strength to the findings.

O'Connor *et al.*, (2010) demonstrated a positive relationship between perfectionism and anxiety, even when controlling for age. Guignard *et al.*, (2012) also reported a positive relationship between perfectionism and anxiety and an effect for age, over the whole sample with a medium effect size; however, in the latter study younger children had lower anxiety but higher perfectionism compared to their older peers. Guignard *et al.*, (2012) explained this finding as possibly due to the different educational transitions being faced by the younger and older adolescent groups. Whilst O'Connor *et al.*, (2010) had a strong methodology overall, both this study and Guignard *et al.*, (2012) demonstrated poor sampling and representativeness. Both studies had insufficient information about inclusion and exclusion criteria and failed to provide a sufficient description of the demographic details of the population, which makes replication studies and interpretation difficult.

2. *Is there a difference between the factors of perfectionism (adaptive versus maladaptive, SPP versus SOP) and anxiety/stress in children and adolescents?*

Afshar *et al.*, (2009) reported a positive correlation between anxiety and maladaptive perfectionism with a medium effect size and a negative correlation between anxiety and adaptive perfectionism with a small effect size. These relationships were found in both sexes and there were no differences after age adjustment. Tsui and Mazzocco (2007) reported similar findings in the relationship between maladaptive perfectionism and anxiety compared to adaptive perfectionism. GhorbanDordinejad and Nasab (2013) also found that maladaptive perfectionists had higher levels of anxiety compared to their adaptive and non-perfectionist peers. Both studies had similar populations (Iranian school pupils), were well powered and explicitly mentioned the use of 95% confidence intervals; however, the findings of GhorbanDordinejad and Nasab (2013) should be treated with caution as the study had poor methodology. The study demonstrated issues with sampling methods (lack of recruitment methods, inclusion/exclusion criteria, attrition) and representativeness (lack of discussion regarding demographic information). It also used the FLCAS, which lacks research supporting its validity. Tan and Chun (2014) explored the possibility of perfectionism being a predictive factor on anxiety. The study detected that discrepancy (a factor associated with maladaptive perfectionism) was a positive predictor of anxiety with a medium effect size; however, high standards (self set standards) was also a positive predictor of anxiety with a small effect size. Interestingly, Tan and Chun (2014)

found no significant differences in anxiety levels when comparing adaptive and maladaptive perfectionists. This study therefore highlighted the role of perfectionism as being a possible predictor with anxiety but that this extends to both adaptive and maladaptive perfectionism. These findings may be influenced by the fact that the sample used were all academically gifted females.

Most of the studies reviewed, explored the concept of perfectionism in the two factors of SOP and SPP (associated as a measure maladaptive evaluative concerns). Further divisions of SOP were made within some of the studies, which included: SOP-striving (adaptive), SOP-critical (maladaptive), SOP-S (social stress) and SOP-Ach (achievement stress). Hewitt *et al.*, (2002) found no significant differences between both factors of perfectionism. In this study both SOP and SPP positively correlated with anxiety with a medium effect size.

Dibartolo *et al.*, (2012) reported that children high on SPP experienced higher anxiety than children lower in SPP, and that they were more likely to report that they should have performed better on the experimental task completed. Children high in SOP-Striving, a measure of positive striving, displayed similar levels of anxiety to their low SOP peers (Dibartolo *et al.*, (2012). Dibartolo and colleagues (2012) study suggested a stronger relationship between SPP and anxiety compared to SOP. Similar conclusions were drawn by O'Connor *et al.*, (2010) and Sub and Prabha (2003), which both found a positive relationship between maladaptive perfectionism factors (SOP critical and SPP) and anxiety. However, contrary findings were found by Arale (2007) and Roberts and Lovett (1994). Arale (2007)

reported a positive correlation between SOP and anxiety with a medium effect size and with 6% of the variance in anxiety explained by SOP. The link between SPP and anxiety was non-significant. Roberts and Lovett (1994) found that their sample of academically gifted children had higher levels of SOP than SPP and demonstrated higher levels of both anxiety and stress. The studies conducted by Arale (2007) and Roberts and Lovett (1994) were similar in methodology and design and it could be hypothesised that the similarity in findings was due to the populations used. Roberts and Lovett (1994) used an academically gifted population and Arale (2007) sample, whilst not academically gifted, included a diverse population in terms of ethnicity which included a significant proportion from Chinese American, Japanese American and African American populations.

3. Are there any differences between anxiety and stress and its relationship with perfectionism?

Four studies measured stress: Krasnow *et al.*, (1999); O'Connor *et al.*, (2010); Hewitt *et al.*, (2002) and Roberts and Lovett (1994). The latter three studies measured both stress and anxiety. Roberts and Lovett (1994) incorporated an experimental component into the design, which evoked stress and measured this via physiological responses from skin temperature. Across all studies, the relationship between perfectionism and stress revealed inconsistent results. Both O'Connor *et al.*, (2010) and Krasnow *et al.*, (1999) found that maladaptive aspects of perfectionism were positively correlated with stress. Whilst this relationship was found across all of O'Connor *et al.*, (2010) sample, it was only evident in some of Krasnow *et al.*, (1994) sample, namely dancers and gymnasts. The latter study

demonstrated a positive correlation with a large effect size. Krasnow *et al.*, (1994) demonstrated some issues with methodology in that the study was underpowered and it failed to provide scoring of measures. It also used a target population (dancers and gymnasts) which makes direct comparisons with other studies difficult.

Studies conducted by Hewitt *et al.*, (2002) and Roberts and Lovett (1994) detected a positive relationship between both adaptive and maladaptive perfectionism and stress. The former study reported a strong link between SOP and social stress and achievement stress and the latter detected a link between both SOP and SPP and stress. It is noteworthy that Hewitt *et al.*, (2002) study was strong in terms of the stress measure used (validated with young people) and was the only study to score highly in this regard. An interaction between perfectionism and stress leading to the prediction of anxiety was reported in two studies. Hewitt *et al.*, (2002) reported that SOP interacted with social stress and achievement stress to predict high levels of anxiety. O'Connor *et al.*, (2010) also found that both SPP and SOP-critical, when interacting with Acute Life Stress, accounted for variance in anxiety. These findings from the authors imply that the relationship between perfectionism (both adaptive and maladaptive) may be influenced by stress. The strength of the methodology observed in both studies gives weight to the findings. Whilst significant findings were reported across all four studies, there were inconsistent results and it may be that this was due to inconsistent methods of measuring stress (often by non-validated means).

Discussion

The aim of this systematic review was to explore the potential relationship between perfectionism and anxiety/stress in children and adolescents. A review of 14 relevant studies was undertaken. No other review with this population has been conducted. Anxiety and stress are widely prevalent in adolescent populations and the trajectory of this can extend into adulthood (Wittchen and Essau, 1993). Perfectionism has been suggested as a possible risk factor for the development or heightening of anxiety symptoms (Egan, Wade, and Shafran, 2011). This review is therefore pertinent to extend knowledge in this area and to provide some clarity on the specific nature of the relationship between these factors. This discussion will focus on responding to the questions being explored for the review. It will also discuss and hypothesise some of the relevant and interesting findings highlighted in this review process.

The relationship between Perfectionism and Anxiety/Stress in Children and Adolescents

The findings from the systematic review confirm a relationship between perfectionism and anxiety and/or stress and is consistent with assertions made by previous researchers in the field (Sironic and Reeve, 2015) and with findings from studies conducted with adults (Lo and Abbott, 2013). All of the studies reviewed reported a correlation between the perfectionism and anxiety and/or stress with a medium to large effect size. Whilst all the studies had a relatively good internal validity, issues with external validity means that it is difficult to generalise beyond the specific contexts in which these studies were conducted; however, each of the

studies reported significant results, which demonstrates that the relationship between perfectionism and anxiety and/or stress holds some validity.

Few studies found significant effects when considering age, gender or ethnicity. Essau *et al.*, (2008) found that when comparing males and females in Germany and Hong Kong, females in both areas had higher levels of anxiety and perfectionism and stronger correlations between these relationships. Guignard *et al.*, (2012) also found an effect for age stating that younger children had lower anxiety but higher perfectionism compared to peers one year older. Although not all studies explored the effects of demographics, the fact that most found no effect for gender is contrary to previous research which suggests that perfectionism and anxiety is mainly a female prevalent issue (Slaney and Ashby, 1996). Most of the studies used correlation or regression designs therefore it is difficult to state the true nature of the relationship between perfectionism and anxiety/stress. Previous assertions have suggested that the relationship may be bidirectional (Damian *et al.*, 2017), and this review is unable to support or reject these hypotheses.

Factors of Perfectionism and Anxiety

The focus on specific factors of perfectionism did not provide any clear or consistent results across the studies. Five of the studies found a stronger correlation between maladaptive aspects of perfectionism with anxiety compared to positive aspects. Afshar *et al.*, (2009) reported a positive relationship between maladaptive perfectionism and anxiety (with a large effect size) and a negative relationship with adaptive perfectionism and anxiety (with a small effect size).

Tsui and Mazzocco (2007) found a similar relationship between maladaptive perfectionism and anxiety. Dibartolo *et al.*, (2012), O'Connor *et al.*, (2010) and Sub and Prabha (2003) all found a positive correlation between SPP (maladaptive) with anxiety compared to SOP (adaptive). These results had a small to medium effect size. Contrary findings were reported by Arale (2007) and Roberts and Lovett (1994) who found that positive aspects of perfectionism (SOP) was significantly correlated with anxiety and not SPP (maladaptive). Hewitt *et al.*, (2002), Tsui and Mazzocco (2007) and Tan and Chun (2014) found evidence of both SOP and SPP strongly relating to anxiety. Tan and Chun (2014) reported the potential predictive ability of maladaptive and adaptive perfectionism on levels of anxiety. An interesting observation was made in some of the studies which detected inconsistent findings (where there was no difference between both adaptive or maladaptive perfectionism or SOP and SPP and anxiety). Tan and Chun (2014) and Roberts and Lovett (1994) used an academically gifted population and Arale (2007), whilst the population was not gifted, it incorporated a diverse population with significant numbers from Chinese American, Japanese American and African American. Previous research has highlighted that those who are academically gifted can experience high anxiety in both domains of SOP and SPP (Neumeister and Finch, 2006) and that perfectionism and anxiety is a prevalent issue in ethnic minorities (Castro and Rice, 2003). The findings from these three studies highlight the need for further research which compares different child and adolescent populations.

The inconsistent results across studies, is similar to the general findings in the wider research field. McCreary *et al.*, (2004) highlight the inconsistency of results exploring both maladaptive and adaptive aspects of perfectionism with anxiety. Hewitt *et al.*, (2002) suggests that when other factors are considered alongside perfectionism (other forms of distress, psychopathology, etc) then often the relationship between perfectionism and anxiety becomes diluted. This may be the case for this systematic review as in order to cover a diverse range of research, studies were included that explored other factors beyond just perfectionism and anxiety.

The actual conceptualisation of perfectionism may also be influencing the findings from the review. Previous research has highlighted the difference in opinion between whether perfectionism should be treated as a unidimensional or multidimensional construct and whether self-orientated factors (self-evaluation, cognition, etc) and interpersonal factors (SPP) contribute equally to the understanding of perfectionism (see Shafran *et al.*, 2002 and Hewitt *et al.*, 2002). Furthermore, O'Connor *et al.*, (2010) states that the specific factor of SOP can impact on studies. In referring to an earlier study conducted by McCreary *et al.*, (2004), O'Connor and colleagues (2010) highlight that using SOP as two dichotomised factors (positive and negative counterparts) can lead to unpredictable findings between perfectionism and anxiety. There was little consistency between the studies under review in how the factors of perfectionism were treated, with some treating SOP as a total factor and others dividing it into positive and negative elements. Treating the review as a whole, the included studies demonstrated that

both adaptive/maladaptive perfectionism, SOP (in its various forms) and SPP can have links to anxiety. In particular, Guignard *et al.*, (2012) and Flett *et al.*, (2011) both explored the role of perfectionistic cognitions, ruminating worrying cognitions, SOP and SPP. Both studies discussed the equal relationship between cognition, SOP and SPP and how these factors hold a positive correlation with anxiety. These findings are consistent with Dunkley *et al.*, (2006) who asserts that both adaptive and maladaptive perfectionism, as well as self-critical evaluation and interpersonal influences, all contribute equally to the conceptualisation of perfectionism. This systematic review provides evidence that perfectionism is a multidimensional construct; however, further research into the factors of perfectionism is required to improve the consistency in the measurement of this construct.

Perfectionism and Stress

Only four studies under review explored perfectionism and stress. Two studies (O'Connor *et al.*, 2010 and Krasnow *et al.*, 1999) reported a positive correlation between maladaptive perfectionism and stress compared to adaptive perfectionism. Roberts and Lovett (1994) and Hewitt *et al.*, (2002) found no difference between maladaptive and adaptive perfectionism, in that they both correlated with stress. Inconsistent measurements of stress used across the four studies make comparisons difficult. The author is not aware of previous studies that have been conducted which compares stress and anxiety (and its relationship with perfectionism), which may explain the inconsistency in methodology between the studies. However, Hewitt *et al.*, (2002) and O'Connor *et al.*, (2010) found that stress interacts in the

relationship between perfectionism and anxiety by strengthening the relationship. This suggests that stress may play a significant role in both perfectionism and anxiety. Flett and Hewitt (2014) and Carr (2006) state the developmental changes that children and adolescents go through (peer/parental influences, impression management, self-evaluation) can lead to heightened perfectionism and impact on levels of stress. Further research is required in this area to develop methods of stress measurement (in comparison with anxiety) and its relationship with perfectionism.

Limitations of the review

The main limitation of the review is the heterogeneity between studies with regards to design, measures used, the factors being explored (often including other forms of psychological distress such as depression, suicide, etc) and the context in which the research was conducted. These may have been contributory factors towards the inconsistent findings across the studies. Due to the variability, it was decided not to pool data or conduct a meta-analysis as the results would be misleading. All of the studies were cross-sectional; therefore no conclusion can be made on the causal relationship between perfectionism and anxiety/stress in young people. Most of the studies used correlations or regressions for analysis, therefore no firm assertions can be made on the direction of the relationship between the factors. Publication bias may also have been introduced as the systematic review excluded non-English language studies.

Study implications and future research

The findings from the systematic review suggest that there is a relationship between perfectionism and anxiety in young people, albeit the exact nature of this relationship is unclear. Regardless of this, these findings have wider implications in both clinical and theoretical contexts. In clinical practice, practitioners need to be mindful of the role of perfectionism in conducting assessments of young people and in developing formulations. Perfectionism may have a role in the perpetuation of anxiety and stress, which will impact on the form and direction of treatment with young people. More awareness should be raised regarding the role of perfectionism with parents and those working with children and adolescents in education. In a context where academic demands are made and expected (from both parents and teachers), perfectionism may increase, which can impact on levels of anxiety and stress. It is assumed that this would be particularly relevant during periods of heightened stress, such as exam periods in adolescence.

Further research is required to explore the specific nature of the relationship between perfectionism and anxiety in various populations of young people and across different cultures. This would assist in being able to generalise findings with more confidence. In particular, comparisons between the factors of perfectionism and the individual roles of both maladaptive and adaptive perfectionism are required so as to provide consistency in the conceptualisation of perfectionism. Furthermore, prospective and longitudinal studies would also assist in exploring the trajectory of the relationship between perfectionism and anxiety in young people. Little research has been conducted focusing on perfectionism and

stress compared to that of anxiety. Further studies are required in this area, namely the identification of a consistent method of stress measurement.

Conclusions

This review of 14 studies highlighted the significant relationship between perfectionism (both positive and negative) and anxiety/stress in young people. The review also provides evidence for perfectionism being conceptualised as a multidimensional construct. Whilst most studies confirmed significant findings with strong internal validity, the ability to generalise findings is less apparent. Future research is required to investigate this area further utilising validated measures (particularly of stress) with children and adolescents. Expanding the evidence base in the area of perfectionism and anxiety/stress in young people is extremely important in consideration of what is understood about the high prevalence of anxiety disorders in young people and its detrimental trajectory into adulthood.

References

- Afshar, H., Roohafza, H., Sadeghi, M., Saadaty, A., Selehi, M., Motamedi, M., Matinpour, M., Isfahani, N.H., Asadollahi, G. (2011). Positive and negative perfectionism and their relationship with anxiety and depression in Iranian school students. *Journal of Research in Medical Sciences*, 16(1), 79–86.
- Antony, M.M., & Swinson, R. P. (1998). *When perfect isn't good enough: strategies for coping with perfectionism*. Oakland, CA: New Harbinger Publications.
- Arale, K. M. (2010). The connection between perfectionism and depression, anxiety, and anger with consideration of ethnicity. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 70(7–B), 4474. Retrieved from http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqdiss&rft_dat=xri:pqdiss:3365690%5Cnhttp://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc7&NEWS=N&AN=2010-99020-294
- Bousman, L. (2007). The Fine Line of Perfectionism: Is It a Strength or a Weakness in the Workplace? *Theses, Dissertations, and Student Research: Department of Psychology (University of Nebraska), Paper 4*. Retrieved from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1003&context=psychdiss>
- Burns, D. D. (1980). The perfectionists's script for self-defeat. *Psychology Today*, (November), 34–52.
- Carr, A. (2006). *The handbook of child and adolescent clinical psychology* (2nd

ed.). East Sussex: Routledge.

- Castro, J. R., & Rice, K. G. (2003). Perfectionism and ethnicity: Implications for depressive symptoms and self-reported academic achievement. *Cultural Diversity and Ethnic Minority Psychology, 19*(1), 64–78. <http://doi.org/10.1037/1099-9809.9.1.64>
- Chorpita, B.F., Tracey S.A., Brown, T.A., Collica, T.J., & Barlow, D. H. (1997). Assessment of worry in children and adolescents: An adaptation of the Penn State Worry Questionnaire. *Behavior Research and Therapy, 35*, 569–581.
- Damian, L.E., Negru-Subtirica, O., Stroeber, J., & Baban, A. (n.d.). Perfectionistic Concerns Predict Increases in Adolescents' Anxiety Symptoms: A Three-Wave Longitudinal Study (in press). *Anxiety, Stress, and Coping*.
- Dibartolo, P.M., & Varner, S. P. (2012). How a children's cognitive and affective responses to a novel task relate to the dimensions of perfectionism. *Journal of Rational-Emotive & Cognitive Behavior Therapy, 30*, 62–76. <http://doi.org/10.1007/s10942-011-0130-8>
- Dunkley, D.M., Blankstein, K.R., Masheb, R.M., & Grilo, C. M. (2006). Personal standards and evaluative concerns dimensions of “clinical” perfectionism: A reply to Shafran et al. (2002, 2003) and Hewitt et al. (2003). *Behavior Research and Therapy, 44*, 63–84. <http://doi.org/10.1016/j.brat.2004.12.004>
- Dunkley, D.M., & Blankstein, K. R. (2000). Self-critical perfectionism, coping, and current distress: A Structural equation modeling approach. *Cognitive Therapy and Research, 24*, 713–730.
- Egan, S. J., Wade, T. D., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: A clinical review. *Clinical Psychology Review, 31*, 203–212.

- Essau, C. A., Leung, P. W. L., Conradt, J., Cheng, H., & Wong, T. (2008). Anxiety symptoms in chinese and german adolescents: Their relationship with early learning experiences, perfectionism, and learning motivation. *Depression and Anxiety*, 25(9), 801–810. <http://doi.org/10.1002/da.20334>
- Flett, G.L., Coulter, L.M., Hewitt, P.L., Nepon, T. (2011). Perfectionism, rumination, worry, and depressive symptoms in early adolescents. *Canadian Journal of School Psychology*, 26(3), 159–176.
- Flett, G.L., Hewitt, P.L., Blankstein, K.R., & Mosher, S. W. (1995). Perfectionism, life events and depressive symptoms: a test of a diathesis-stress model. *Current Psychology: Developmental, Learning, Personality, Social.*, 14(2), 112–137.
- Flett, G.L., & Hewitt, P. . (2014). A proposed framework for preventing perfectionism and promoting resilience and mental health among vulnerable children and adolescents. *Psychology in the Schools*, 51, 899–918. <http://doi.org/10.1002/pits.21792>
- Flett, G.L., & Hewitt, P. L. (2001). *Perfectionism: Theory and Research*. Washington, DC: American Psychological Association.
- Flett, P.L., Hewitt, P.L., Boucher D.J., Davidson, L.A., & Munro, Y. (1997). *The Child and Adolescent Perfectionism Scale: Development, validation and association with adjustment*. Unpublished manuscript.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Theory and Research*, 14, 449–468.
- GhorbanDordinejad, F., & Nasab, A,H, F. (2013). Examination of the relationship

between perfectionism and English achievement as mediated by foreign language classroom anxiety. *Asia Pacific Educational Review*, 14, 603–614.
<http://doi.org/10.1007/s12564-013-9286-5>

Glasgow RE, Klesges LM, Dzewaltowski DA, Bull SS, E. P. (2004). The future of health behavior change research: what is needed to improve translation of research into health promotion practice? *Annals of Behavioral Medicine*, 27, 3–12.

Greenberger, E., Chen, C, Tally, S. R., & Dong, Q. (2000). Family, peer, and individual correlates of depressive symptomatology among U.S. and Chinese adolescents. *Journal of Consulting and Clinical Psychology*, 68(2), 209–219.

Guignard, J-H., Jacquet, A-Y., & Lubart, T, I. (2012). Perfectionism and anxiety: A paradox in intellectual giftedness? *PLoS ONE*, 7(7), 1–6.
<http://doi.org/10.1371/journal.pone.0041043>

Hamachek, D. E. (1978). Psychodynamics of Hamachek, D. E. (1978). Psychodynamics of normal and neurotic perfectionism. *Psychology Today*, 15, 27–33. normal and neurotic perfectionism. *Psychology Today*, 15, 27–33.

Haynes, B. (2006). Forming research questions. *Journal of Clinical Epidemiology*, 59, 881–886.

Hewitt, P,L., Flett, G,L., Besser, A., Sherry, S,B., & McGee, B. (2002). Perfectionism is multidimensional: a reply to Shafran, Cooper and Fairburn (2002). *Behaviour Research and Therapy*, 41, 1221–1236.
[http://doi.org/10.1016/s0005-7967\(03\)00021-4](http://doi.org/10.1016/s0005-7967(03)00021-4)

Hewitt, P.L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: conceptualisation, assessment and association with psychopathology. *Journal*

of Personality and Social Psychology, 60, 456–470.

- Hewitt, P.L., & Flett, G. L. (2001). Perfectionism and stress enhancement, perpetuation, anticipation and generation in psychopathology. In G.L. Flett & P.L. Hewitt (Ed.), *Perfectionism: Theory, research, and treatment*. Washington, DC: American Psychological Association.
- Hewitt, P.L., Caelian, C.F., Flett, G.L., Sherry, S.B., Collins, L.A., & Flynn, C. A. (2002). Perfectionism in children: associations with depression, anxiety and anger. *Personality and Individual Differences*, 32, 1049–1061.
- Higgins, J. & Green, S. (2008). *Cochrane Handbook for Systematic Reviews of Interventions*. Chichester: Wiley & Sons and Cochrane Collaboration.
- Horwitz, E.K., Horwitz, M.B., & Cope, J. (1986). Foreign Language Anxiety. *The Modern Language Journal*, 70, 114–124.
- Kanner, A.D., Feldman, S.S., Weinberger, D.A., & Ford, M. E. (1987). Uplifts, hassles and adaptational outcomes in early adolescents. *Journal of Early Adolescence*, 7, 371–394.
- Konchanska, G. (1993). Towards a synthesis of parental socialization and child temperament in the early development of conscience. *Child Development*, 64, 325–347.
- Krasnow, M.S., Mainwaring, L., & Kerr, G. (1999). Injury, stress and perfectionism in young dancers and gymnasts. *Journal of Dance Medicine & Science*, 3(2), 51–58.
- Lo, A., & Abbott, M. J. (2013). Review of the theoretical, empirical, and clinical status of adaptive and maladaptive perfectionism. *Behaviour Change*, 30, 96–116. <http://doi.org/10.1017/bec.2013.9>

- McCreary, B. T., Joiner, T. E., Schmidt, N. B., & Ialongo, N. S. (2004). The structure and correlates of perfectionism in African American children. *Journal of Clinical Child and Adolescent Psychology*, 33, 313–324.
- Neumeister, K. L. S., & Finch, H. (2006). Perfectionism in high-ability students: Relational precursors and influences on achievement motivation. *The Gifted Child Quarterly*, 50(3), 238–251.
- Nice. (2012). Methods for the development of NICE public health guidance (third edition), (September), 284. Retrieved from <https://www.nice.org.uk/process/pmg4/resources/methods-for-the-development-of-nice-public-health-guidance-third-edition-pdf-2007967445701>
- O'Connor, R. C., Fraser, L., Whyte, M.C., MacHale, S., & Masterton, G. (2009). Self-regulation of unattainable goals in suicide attempters: the relationship between goal disengagement, goal reengagement and suicidal ideation. *Behaviour Research and Therapy*, 47, 164–169.
- O'Connor, R. C., Rasmussen, S., & Hawton, K. (2010). Predicting depression, anxiety and self-harm in adolescents: The role of perfectionism and acute life stress. *Behaviour Research and Therapy*, 48(1), 52–59. <http://doi.org/10.1016/j.brat.2009.09.008>
- Pacht, A. R. (1984). Reflections on perfection. *American Psychologist*, 39, 386–390.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic Emotions in Students' Self-Regulated Learning and Achievement: A Program of Qualitative and Quantitative Research. *Educational Psychologist*, 37(2), 91–

105. http://doi.org/10.1207/S15326985EP3702_4

- Petticrew, M. & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Oxford, UK: Blackwell Publishing.
- Reynolds, C.R., & Richmond, B. O. (1978). What I think and feel: a revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology*, (6), 271–280.
- Roberts, S.M., & Lovett, S. B. (1994). Examining the “F” in gifted: Academically gifted adolescents' physiological and affective responses to scholastic failure. *Journal for the Education of the Gifted*, 17, 241–259.
- Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive-behavioural analysis. *Behaviour Research and Therapy*, 40(7), 773–791. [http://doi.org/10.1016/S0005-7967\(01\)00059-6](http://doi.org/10.1016/S0005-7967(01)00059-6)
- Sharma, S., & Sud, A. (1990). Examination Stress and Test Anxiety: A cross-cultural perspective. *Psychology and Developing Societies*, 2(2), 183–201.
- Sheldrake, R. (1999). How Widely is Blind Assessment Used in Scientific Research? *Alternative Therapies*, 5(3), 88–91.
- SIGN & NHS QIS. (2015). *Sign 50: A guideline developer's handbook*. Retrieved from <http://www.sign.ac.uk/pdf/sign50.pdf>
- Silverman, W. K., & Albano, A. M. (1996). *The Anxiety Disorders Interview Schedule for DSM-IV-Child and Parent Versions*. New York: Oxford University Press.
- Sink, C. a., Stroh, H. R., Ph, D., & Ed, D. (2006). Practical significance: The use of effect sizes in school counseling research. *Professional School Counseling*, 9(5), 401–411. <http://doi.org/Article>

- Sironic, A., & Reeve, R. A. (2015). A combined analysis of the Frost Multidimensional Perfectionism Scale (FMPS), Child and Adolescent Perfectionism Scale (CAPS), and Almost Perfect Scale–Revised (APS-R): Different perfectionist profiles in adolescent high school students. *Psychological Assessment*, 27, 1471–1483. <http://doi.org/10.1037/pas0000137>
- Slade, P. D., & Owens, R. G. (1998). A dual process model of perfectionism based on reinforcement theory. *Behavior Modification*, 22, 372–390.
- Slaney, R. B., & Ashby, J. S. (1996). Perfectionists: Study of a criterion group. *Journal of Counseling and Development : JCD*, 74(4), 393–398.
- Slaney, R.B., Rice, K.G., Mobley, M., Trippi, J., & Ashby, J. (2001). The revised almost perfect scale. *Measurement and Evaluation in Counseling and Development*, 34, 130–145.
- Spence, S. H. (1997). Structure of anxiety symptoms among children: A confirmatory factor-analytic study. *Journal of Abnormal Psychology*, 106, 280–297.
- Spielberger, C. D. (1980). Test anxiety inventory: Preliminary professional manual for the test anxiety (test attitude inventory) TAI. Palo Alto; CA: Consulting Psychologists Press.
- Steckler, A., & McLeroy, K. R. (2008). The Importance of External Validity. *American Journal of Public Health*, 98(1), 9–10. <http://doi.org/10.2105/AJPH.2007.126847>
- Stoeber, J. (2014). How Other-Oriented Perfectionism Differs from Self-Oriented and Socially Prescribed Perfectionism. *Journal of Psychopathology and Behavioral Assessment*, 36(2), 329–338.

- Sub, A., & Prabha, C. (2003). Academic performance in relation to perfectionism, test procrastination and test anxiety of high school children. *Psychological Studies*, 48, 77–81.
- Terry-Short, L.A., Owens, R.G., Slade, P.D., & Dewey, M. E. (1995). Positive and negative perfectionism. *Personality and Individual Differences*, 18, 663–668.
- The British Psychology Society. (2010). *Code of Human Research Ethics*. Leicester: The British Psychological Society.
- Tsui, J., & Mazzocco, M. M. (2006). Effects of math anxiety and perfectionism on timed versus untimed math testing in mathematically gifted sixth graders. *Roeper Review*, 29(2), 132–139. <http://doi.org/10.1080/02783190709554397>
- Wittchen, H.U., & Essau, C. A. (1993). Mixed anxiety-depressive disorders: Is there an epidemiological evidence? *Journal of Clinical Psychiatry*, 54, 9–15.
- Zigmond, A.S & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatr Scand*, 67(6), 361–370.



Journal Article:

Exploring the role of Self-compassion and Perfectionism in the prediction of Psychological Distress and Psychological Well-Being in Adolescents.

Kim Campbell^{1*}, Dr Stella Chan², Dr Emily Taylor³

¹ East CAMHS Team, Templeton Business Centre, Glasgow

^{2, 3} Department of Clinical Psychology, School of Health in Social Sciences, University of Edinburgh, Edinburgh, UK.

*Requests for reprints should be addressed to Kim Campbell, East CAMHS Team, Templeton Business Centre, Glasgow. Email: kim.campbell11@nhs.net.

This review has been written in accordance with the Developmental Psychology journal

(See Appendix A)

Abstract

During adolescence, perfectionism may be a contributory factor towards psychopathology. As seen in previous research with adults, self-compassion has demonstrated an inverse relationship with maladaptive perfectionism and psychopathology. Similar studies are yet to be conducted in an adolescent population. The aim of this study was to explore the relationship between perfectionism, self-compassion, psychological distress and well-being in adolescents. The study was a cross-sectional and quantitative design, using self-report surveys to assess perfectionism, self-compassion, psychological distress, psychological well-being. It recruited a sample of adolescents (n=128; 64.1% female, mean age 16.24 years) from schools across the city of Edinburgh. Results demonstrated a significant relationship between perfectionism and self-compassion and a subsequent relationship with psychological distress and psychological well-being. A significant interaction effect between perfectionism and self-compassion was also established, with self-compassion demonstrating a particularly significant role in the interaction. Further research is required with adolescents that extends beyond cross-sectional designs and explores possible mediating and/or moderating factors between perfectionism and self-compassion.

Keywords: Perfectionism, Self-Compassion, Psychological Distress, Psychological Well-Being, Adolescents.

Introduction

Adolescence

Adolescence represents transition in the lifespan characterised by a significant rate in growth and transformation that is second only to that of infancy (Carr, 2006). Adolescence is a developmental stage where the sense of self is threatened. Rosenberg (1986) states that adolescents demonstrate a shift from focused emphasis on social 'exterior' to psychological 'interior'. Adolescents develop more internal, concealed, psychological dimensions in the form of qualities and attitudes (Rosenberg, 1986). As a result self-concept at this stage of development becomes more complex and multidimensional. According to Harter (1999) adolescents transition from a period in childhood where their self-representations are positive and idealistic to a self-evaluation that is more realistic and accurate. Adolescents show greater differentiation between the ideal self and the real self with greater differentiation of their self-image (Shirk and Renouf, 1992). Cognitive changes in adolescents demonstrate a capacity for higher-order reasoning about the self and its characteristics (Harter, 1999). The physical aspect of the self becomes less important compared to psychological aspects. Adolescents have an important inner world and begin to introspect about it. Harter (1999) states that whilst adolescents demonstrate the capacity to separate parts of their self, they have the inability to organise these into a rational, consistent and realistic self-system. As a result, self-evaluation (particularly concerning identity) shows constant fluctuation and instability during this developmental stage (Demo and Savin-Williams, 1992). As cognitive changes are developing, interpersonal relationships are also instrumental in shaping adolescents' self-concept and identity. During middle adolescence,

young people learn to predict others' reactions and internalise behavioural values (Harter, 1999). Self and social comparison information is influential and young people begin to compare themselves or their behaviour to their past or to other adolescents. Adolescent identity and the sense of self can become malleable and reflects the interpersonal domain, demonstrating a sense of self dependent on social context (Harter, 1999). Peer relationships and identity formation based on peer judgement leads to greater independence from parents. Peer relationships become more intense particularly with regard to evaluations of personal capability. Adolescents start to learn about social and group conformity and what it's like to be accepted or rejected from peer groups. Adler and Adler (1998) report that those who belong to popular social groups are more likely to experience an unstable and vulnerable sense of self due to the perceived fragility of being included or excluded. The authors also state that those who want to be part of the popular social groups ('wannabes') can experience status insecurity, low self-esteem and a lack of identity clarity (Adler and Adler, 1998). During adolescence the physical self becomes a persistent occurrence (Toombs, 1994) and can impact on early adolescent self and identity (Brooks-Gunn and Graber, 1999). Simmons (1987) stated that if physical changes occur suddenly or prematurely compared to peers of the same age, then the transition to adolescence and early adulthood can have a negative impact on self-evaluation. Simmons (1987) states that the timing of puberty (particularly with girls) has a greater influence on self-esteem, identity and sense of self than puberty itself.

It is clear that identity during adolescence is fragile and there is uncertainty over what is the true self. The period is characterised by increased self-consciousness, introspection, inner conflict, stress, insecurity, and awkwardness (Brinthaupt and Lipka, 2002). Identity becomes dependent on who is providing the expectations (or perceived expectations). For example, opinions of the self may be entangled in the expectations of parents and peers and therefore impression management and self-presentation becomes significant. The adolescent may therefore experiment with different roles and identities, which may convey the notion that the sense of self is unstructured and unsettled (Brinthaupt and Lipka, 2002). All of this is occurring at a time with major physical changes as the adolescent transitions into a young adult. The multiple changes during this developmental stage often does not occur at the same time or the same rate as peers. Therefore, whilst adolescents learn to experience a complex sense of self and identity, they often do not have the capacity or experience to make sense of this difficult developmental stage.

In light of the complexities as part of this developmental stage it is not surprising that psychological distress is a common issue in adolescence (O'Connor *et al.*, 2009). There is a substantial body of research which demonstrates that the onset, course and development of psychopathology, such as anxiety and depression, are associated with stress in early life (Garber, 2010; Hammen, 2009). Rates of depression by middle adolescence are comparable to those found in adult populations (Southall and Roberts, 2002). Anxiety is also a prevalent mental health problem in adolescence and its trajectory has been found to develop into adulthood (Hale *et al.*, 2008). The prevalence figures for depression and anxiety in

adolescents show that this is higher in females compared to males (Carr, 2006). Additionally, in both sexes psychopathology can be maintained or exacerbated by such behaviours in adolescence as drug misuse, self-harm or risk taking (Carr, 2006).

Conceptualisation of Perfectionism in Adolescents

The developmental changes that occur in adolescence make perfectionism a particularly relevant psychological factor, through increased self-consciousness and awareness of social expectations. Indeed, adolescence is a period of heightened self-evaluation and vulnerability to evaluation and achievement expectations from the self and others (Flett and Hewitt, 2014). Perfectionism has been found to be a predictor of this distress in adolescents (O'Connor, Rasmussen and Hawton, 2010; Ingram and Price, 2001; Flett and Hewitt, 2002). Perfectionism has been conceptualised as a dichotomised construct, made up of positive/adaptive elements and negative/maladaptive elements and is widely used by researchers to develop theoretical understandings of perfectionism as well as measurement of this construct (Damian *et al.*, 2017). Perfectionism can be a positive/adaptive personality trait, leading to personal striving and goal achievement. It can also be negative and maladaptive, characterised by high standards of performance and trepidation about the social consequences of not being perfect, which can lead to high levels of distress (Damian *et al.*, 2017). Nevertheless, this conceptualisation is not as clear as authors' state. Firstly, it is possible that an individual can possess the ability to demonstrate adaptive and maladaptive perfectionism simultaneously perhaps through the completion of tasks; however, this conceptualisation makes it

difficult to assess both aspects in operation. Secondly, the polarisation of perfectionism conflicts with what is known about the main theories of personality, in that often attributes and qualities exist on a continuum (Goldberg, 1992). Adaptive or maladaptive perfectionism as part of personality traits also therefore exist on a continuum, which is influenced by numerous intrapersonal and interpersonal factors. The dichotomised conceptualisation of perfectionism is difficult to assess this fully. This may particularly be the case with adolescents where constant development increases the fluidity of personality characteristics. Finally, some authors have argued that adaptive perfectionism does not exist (Benson, 2003). In Benson (2003) reference is made to discussions with Hewitt and Flett (2001) which state that it is not productive to consider an adaptive element of perfectionism. They argue that whilst someone may have high standards and experience little distress, the strain and effort to maintain such standards makes these individuals vulnerable to psychopathology. The likelihood that errors or failures will be made are inevitable and may lead to stress, distress and eventual psychopathology (see Benson, 2003). These studies demonstrate that the dichotomised conceptualisation may not be effective in fully understanding the complexities of perfectionism.

Shafran *et al.*, (2002) argued that perfectionism is predominantly a unidimensional construct with particular emphasis on the cognitive-behavioural model and self-orientated perfectionistic attitudes. These authors state that individuals have overdependence on self-evaluation in the pursuit of self-imposed, unrealistic standards, typically in one domain (Shafran *et al.*, 2002). This stance focuses on

the internal world of the individual and the role of negative, black and white cognitions. It conceptualises perfectionism as a maladaptive construct. Shafran *et al.*, (2002) have faced criticism for their theoretical conceptualisation as their research is predominately based on eating disorder, clinical populations. Additionally, as stated earlier the evolution of cognitive capacities and the importance of interpersonal relationships during adolescence are highly significant. Shafran *et al.*, (2002) provide little attention to the role of interpersonal relationships in their conceptualisation nor mention how differences in accessing the inner world and processes of introspection at different stages of development may be an influencing factor. The general consensus amongst researchers is that perfectionism is a multidimensional construct which embodies the role of intrapersonal and interpersonal foci (Hewitt, Flett, Besser, Sherry and McGee, 2002; Dunkley *et al.*, 2006). Flett *et al.*, (2002) integrative model of perfectionism highlights the multidimensional stance of perfectionism by incorporating personal (temperament, personality, values), parental (parenting styles, practices) and contextual (culture, relationships, peers) factors that provide evidence for the development of perfectionism and the perpetuating factors that influence a young person's pressure to be perfect (Rasmussen and Troilo, 2016). The combination of these factors provide a holistic and balanced perspective of the influences that maintain perfectionism as well as acknowledging the important relationships in a young person's life across multiple contexts. Flett *et al.*, (2002) state that the multidimensional conceptualisation of perfectionism can be applied to individual young people and therefore captures the heterogeneity amongst perfectionists.

The multidimensional conceptualisation of perfectionism has led to the development of key assessment measures. The Child and Adolescent Perfectionism Scale (CAPS; Flett *et al.*, 1997) is one of the most widely used self-report measures for perfectionism (Flett and Hewitt, 2014) and is based on the adult measure (Hewitt Multidimensional Perfectionism Scale, HMPS; Hewitt and Flett, 1991). The CAPS allows for further understanding of perfectionism and the interaction of other constructs. Similarly to the HMPS, the CAPS has subscales to assess both self-orientated perfectionism (SOP; striving for extreme personal standards) and socially prescribed perfectionism (SPP; the perception that others demand perfection from one's self) (Flett and Hewitt, 2014). Further research with the CAPS has proposed a three factor structure of perfectionism with young people (McCreary, *et al.*, 2004). This conceptualisation breaks down SOP into two further components: SOP-critical (self-criticism) and SOP-striving (striving for perfectionism). Flett *et al.*, (2016) argue that the positive findings in using this scale were questionable. They state that McCreary *et al.*, (2004) altered the CAPS to a significant degree by rewording five of the items and that they used a four point likert scale instead of five as recommended by Flett *et al.*, (1997). O'Connor *et al.*, (2009) study also demonstrated a poor fit to their data, therefore developed their own three factor alternative with a different set of 14 items. The negatively worded items were removed as were items that loaded complexly with cross-loadings on the factors. O'Connor *et al.*, (2009) reported a good fit of this measure and demonstrated good validity in two adolescent samples. Flett *et al.*, (2016) still state that this method is problematic in that it contains no reverse coded items, some of the items can be open to interpretation and only one item openly reflects

self-criticism. Despite these concerns, it is noteworthy that Flett *et al.*, (2016) advocated the removal of the negatively worded items of the CAPS as well as acknowledging that SOP remaining as a single item does cause difficulties when assessing the different facets of self-orientated perfectionism.

Perfectionism and Psychopathology in Adolescents

There is significant evidence which highlights the potential detrimental effect of perfectionism in young people (Flett and Hewitt, 2012). Although the majority of research has been conducted in non-clinical community settings (namely schools), higher levels of perfectionism have been found in young people with clinically diagnosed anxiety and depression (Huggins *et al.*, 2008) and in specific populations, such as elite athletes and gifted students (Morris and Lomax, 2014). It has also been linked to other forms of psychopathology such as obsessive-compulsive disorder (Soreni *et al.*, 2014), eating disorders (Hewitt, Flett and Ediger, 1996), poor academic adjustment (Rice and Dellwo, 2001) and an increased risk of self-harm or suicide (O'Connor *et al.*, 2010). Research exploring the individual factors of perfectionism and their relationship with psychological distress has yielded inconsistent results (see O'Connor *et al.*, 2010). Previous studies measuring adaptive perfectionism (striving) do not show a significant relationship with psychological distress (O'Connor *et al.*, 2010; McCreary *et al.*, 2004). Other studies have reported a strong relationship between SPP and depression (Flett *et al.*, 1995; Huggins *et al.*, 2008) and between SPP and anxiety (Essau *et al.*, 2008; Dibartolo *et al.*, 2012); however, Arale (2007) reported no links between SPP and anxiety and other authors have stated that whilst there is a

relationship, it does not withstand when other variables (such as mood) are considered (McCreary *et al.*, 2004). Hewitt *et al.*, (2002) found that SOP was positively correlated with depression and anxiety in a sample of young people, whereas Huggins *et al.*, (2008) found that SOP did not predict concurrent depression in a comparable study. The above studies were conducted in non-clinical settings, use inconsistent measures and are cross-sectional designs. The ability to generalise results beyond the remit of these studies is therefore challenging and highlights the potential problems in examining psychological distress and perfectionism at a factor level instead of a total score. Additionally, these studies tend to be correlational and therefore only explore relationships between perfectionism and psychopathology, making it difficult to come to conclusions about the true nature (and direction) of the relationship. Whilst some recent studies have suggested that perfectionism and psychopathology exist in a bidirectional relationship (Damian *et al.*, 2017), further research is required to explore this relationship further.

The impact of other factors has also demonstrated significance in the relationship between perfectionism and psychopathology. Hewitt *et al.*, (2002) found that SOP interacted with social stress and achievement stress to predict high levels of anxiety. O'Connor *et al.*, (2010) also found that the interaction between SOP-critical and Acute Life Stress accounted for variance in anxiety beyond the individual results. It could be hypothesised that perfectionism and stress are functioning in a vulnerability-stress diathesis and that perfectionism may perpetuate psychopathology under the provocation of stress. Consistent with this,

O'Connor *et al.*, (2010) reported that even a low amount of reported stress in their adolescent population was a significant factor in the relationship between SPP and risks of self-harm and depression.

The Conceptualisation of Self-Compassion in Adolescents

Recent research has focused on the possible influence of positive psychological well-being on psychopathology (Bluth and Blanton, 2006). Enhancing positive psychological states can help to reduce vulnerability, enhance resilience and improve potential developmental outcomes throughout adolescence and into adulthood (Keyes, Dhingra and Simoes, 2010). Positive psychology advocates a shift of focus to strengths and resourcefulness rather than deficits and problems (Bluth and Blanton, 2006). Whilst this has been researched within adult and college samples, only recently has it been extended into adolescent populations. Research on positive processes during adolescence has shown strong relationships with psychological well-being (Froh *et al.*, 2010). Self-compassion is a factor which has been associated with positive well-being in adults (MacBeth and Gumley, 2012). It advocates welcoming and acknowledging negative emotions rather than stifling them. Engaging in this process can help enhance positive emotions (Bluth and Blanton, 2006). Whilst there is less research examining self-compassion with adolescents than in adults, research has demonstrated that self-compassion can have a positive effect on this age group (Neff, 2003).

There are three interacting components to self-compassion: 1) Adopting a sense of self-kindness and understanding towards oneself instead of unkind self-criticalness

and judgment; 2) seeing one's own experiences as being part of the common human experience rather than isolating oneself; and 3) being aware and mindful of painful and negative thoughts and emotions rather than becoming tangled and over-identified with them (Neff, 2003). Self-compassion can be a complex process and elements of its conceptualisation may deem it to be a process that young people could find difficult. Neff (2003) argues that the process requires wisdom and lived experience. Gilbert (2009) highlighted that the component of mindfulness as part of self-compassion is a form of metacognition and attention regulation associated with increased activity in the prefrontal regions of the brain. Considering adolescent stages of cognitive development, some elements of self-compassion may prove to be difficult for some young people. Self-compassion also requires an acceptance and welcoming of negative emotions and considering the fluctuating emotions experienced during adolescence, this process may be overwhelming for some young people. Additionally, self-compassion may conflict with other key stages regarding interpersonal relationships in adolescent development, such as egocentrism (Elkind, 1967). Adolescents can develop "the personal fable" in which they deem their own experiences to be unique to them and that others will not appreciate what they are experiencing (Lapsley *et al.*, 1989). Expressing thoughts and feelings consistent with the personal fable may reduce their sense of common humanity. Indeed, Neff and McGehee (2010) found an inverse relationship between self-compassion and adolescent's experiences of the personal fable. Self-criticism, isolation and amplified emotions are common features of teenage years and therefore self-compassion may be lower during this developmental period (Neff, 2003).

Körner *et al.*, (2015) argued that self-compassion should be conceptualised as a two factor model in recognition of self-compassion containing negative items (isolation, over-identified thinking, self-criticalness) and positive items (mindfulness, common humanity, self-kindness). Previous studies with adult populations have demonstrated significant relationships between positive items of self-compassion and psychological well-being and negative items of self-compassion and psychological distress (Lopez *et al.*, 2015; Körner *et al.*, 2015). Lopez *et al.*, (2015) in particular found that the negative items of self-compassion held a strong positive correlation with neuroticism and rumination. Whilst some studies have found that the positive items of self-compassion can act as a potential safeguard against the negative items of self-compassion as well as depression (Wong and Mak, 2013), others have argued that the negative items of self-compassion may play a more significant role when linked with psychopathology, such as particular measures of stress (Montero-Marin *et al.*, 2016). The latter findings are consistent with previous research that have demonstrated that negative self-compassion may have different clinical correlates and therefore provide further substantiation for self-compassion to be considered as a positive and negative factor structure. In particular, strong relationships have been detected between self-judgement and self-criticism (Zuroff *et al.*, 1990), isolation and social withdrawal (Rubin and Coplan, 2004) and over-identified thinking with self-focused rumination (Lyubomirsky and Nolen-Hoeksema, 1995). Neff (2017) highlighted that the polarisation of self-compassion is not the intended purpose of

the scale and detracts from the true meaning of self-compassion. Whilst Körner *et al.*, (2015) conceptualisation allows for the identification of different elements of self-compassion that some individuals may or may not struggle with, Neff (2017) argued for the simplicity of measuring self-compassion as a total score, particularly with adolescents. Neff (2017) compared several measures of self-compassion using the Self-compassion Scale and advocated that the total score continued to demonstrate the most robustness.

Self-Compassion and Psychological Well-Being in Adolescents

Several studies have demonstrated that self-compassion is associated with psychological health (Samaie and Farahani, 2011). A recent meta-analysis established a large inverse relationship between self-compassion and psychopathology (namely anxiety, depression and stress) (MacBeth and Gumley, 2012). It is suggested that self-compassion can act as a form of coping and safeguarding against the effects of psychopathology by positively impacting unproductive repetitive thinking (Raes, 2010). Additionally, research findings with adults show evidence of how self-compassion can demonstrate indicators of positive psychological health, satisfaction with life (Neff, 2003), emotional intelligence (Heffernan *et al.*, 2010), coping skills (Leary *et al.*, 2007) and positive well-being (Baer, Lykins and Peters, 2012). Self-compassion has also been found to have a positive impact on interpersonal relationships (Yarnell and Neff, 2013). Gilbert (2005) suggests that self-compassion promotes well-being because it makes individuals feel nurtured, attached with others and invokes a sense of emotional

calmness. Gilbert (1989) proposed that self-compassion can neutralize the threat system (linked to anxiety, self-protection and the limbic system) and stimulate the self-soothing system (related to feelings of secure connectedness, being safe and the oxytocin-opiate system). Therefore, self-compassion can act as a means of reducing distress as well as heightening a sense of well-being.

Compared to the adult research literature, there are fewer studies that have explored self-compassion in adolescent populations; however it has demonstrated the potential for working with young people. A recent meta-analysis replicated a strong relationship between self-compassion and psychological distress (depression, anxiety and stress) in adolescents (Marsh, Chan and MacBeth, personal communication). Neff and McGehee (2010) found an inverse relationship between self-compassion and anxiety and depression within their sample of 14-17 year olds. A recent study also reported a positive correlation between self-compassion and self-esteem and a negative relationship between self-compassion and aggression in a population of 16-18 year old students (Barry, Loflin and Doucette, 2015). Self-compassion has additionally been found to mediate the link between self-esteem and psychopathology in a longitudinal study of 14-17 year olds (Marshall *et al.*, 2015) as well as being a protective factor following a significant trauma (Zeller *et al.*, 2014). Bluth *et al.*, (2015), in their recent experimental study with adolescents, reported the prospect of self-compassion acting as a buffer against stress. Results of this study also revealed that those higher in self-compassion had a lower stress response, less anxiety and less negative affect compared to those in the low self-compassion group. This

demonstrates the potential effects of self-compassion as being a significant factor in protecting against the potential detrimental effects of psychopathology as well as a means of developing coping and resilience within adolescent populations.

Self-compassion and Perfectionism and its relevance to Adolescents

At a higher concept level Neff (2003) has stated that self-compassion is inversely related to neurotic (maladaptive) perfectionism; in that students elevated in self-compassion showed reduced maladaptive perfectionism. On a theoretical level, both concepts of perfectionism and self-compassion have relevance in adolescent populations, particularly reflecting on previous discussions of self-concept and identity formation during this stage of development. As Erikson (1968) highlighted, the development of self-concept and identity formation is a major task during adolescence. Erikson's (1968) theories of identity formation stress that during this time adolescents are preoccupied with constant self-evaluation and will often hold negative thoughts of themselves. Luyckx *et al.*, (2008) state that perfectionism is a personality dimension that is particularly relevant for identity formation and the development of a possible positive self-concept. They found that adaptive perfectionists appeared to set realistic goals and plans, had a greater sense of identity and sense of self. On the other hand, maladaptive perfectionists struggled with defining their identity and were preoccupied by negative cognitions that impeded their success (Luyckx *et al.*, 2008). They concluded that the self-criticism maladaptive perfectionists experience can impede on a stable identity formation (Luyckx *et al.*, 2008). Similarly, Rice and Mirzadeh (2000) report an established link between perfectionism and identity formation. They state that

perfectionistic adolescents will often disregard their emotional needs to receive praise or recognition from others (peers, parents, teachers) or to avoid criticism. Perfectionistic young people are more likely to develop a negative sense of self and their abilities based on self or other imposed expectations for perfect performance (Harter, 1998). It is therefore assumed that a young person's identity will likely be the presentation of the 'ideal' self and perhaps an inaccurate reflection of what is the true self. Perfectionists become fearful of exposing the true self as a means of exposing potential flaws or perceived inadequacies.

Johnson and Nozick (2011) conceptualised self-compassion as a reflective process in which one can defend oneself from harsh self-criticism and the potential loss of conviction in, and commitment to, self and identity that follows on from it. Therefore self-compassion has the potential to play a role in the development of self-concept and identity stability. Rumination can be a prevalent feature during adolescence, particularly about the self and perceived personal inadequacies. Evidence suggests that perfectionists more commonly engage in rumination than others and that rumination strengthens the correlation between maladaptive perfectionism and distress (Short and Mazmanian, 2013). Maladaptive perfectionism is also linked with elevated levels of persistent self-critical thinking and obstructive attitudes about emotions (James, Verplanken and Rimes, 2015). A core premise of Erikson (1968) theory of identity formation is that adolescents develop increased capacity to engage in reflection about who they are and what is important to them, shaping a sense of personal awareness and a stable sense of self. Self-compassion can be an effective means of increasing self-awareness and the

mindfulness aspect in particular can prevent adolescents from obsessively ruminating on pessimistic thoughts and emotions about themselves and their abilities. Argus and Thompson (2008) reported that mindful awareness can influence the positive relationship between maladaptive perfectionism and symptoms of depression. Furthermore, Hinterman *et al.*, (2012) reported a significant relationship between low mindfulness, maladaptive perfectionism, depression and rumination. Focusing on the individual factors of self-compassion, research has shown that self-kindness in particular can moderate the relationship between depression and a specific element of perfectionism (self-criticalness) (Wong and Mak, 2013). The ability to engage in self-compassion and increase self-awareness by perceiving experiences as part of the common human experience could help to achieve clarity, consistency and stability in self-concept and identity during adolescence (Johnson and Nozick (2011).

Summary and rationale for the current study

From the research discussed, adolescence has the potential to be a stressful period with increased risks of psychopathology. Perfectionism may be a contributory factor; however, previous research is inconsistent and marred by limited methodologies. Self-compassion demonstrates the capacity to buffer against the risk of developing psychopathology as well as building a positive sense of self, improving psychological well-being and resilience in adolescent populations. This research therefore aims to explore perfectionism, self-compassion and their links to psychological distress and positive psychological well-being in adolescents.

Aims and Hypotheses

Study 1 Research Questions and Hypotheses:

Research Question 1: What is the association between perfectionism and self-compassion?

Hypothesis 1: Perfectionism and self-compassion will be positively correlated.

Research Question 2: Do perfectionism and self-compassion predict psychological distress and psychological well-being?

Hypothesis 2a: High levels of perfectionism will be associated with higher levels of psychological distress and lower levels of psychological well-being.

Hypothesis 2b: High levels of self-compassion will be associated with lower levels of psychological distress and higher levels of psychological well-being.

Hypothesis 2c: Perfectionism and self-compassion (interaction) will have an impact on levels of psychological distress and psychological well-being.

Methodology

Design

The study was a cross-sectional design which used self-report questionnaires.

Participants

Participants were recruited from four schools in Edinburgh. A total of 128 adolescents took part in the study. Participants were required to be over the age of 14 years of age to comply with the recommendations made by Neff (2003) in using the Self-Compassion Scale (SCS). Participants also had to self-identify to be fluent in English (reading and writing) for completion of the questionnaires. Participants with a learning disability were not included due to potential challenges in securing consent.

Procedure

An information letter was given to all potential participants for the attention of their parents via the teachers in the participating schools. This included an opt out form for parents to complete and return if they did not want their child to take part (see

Appendix D). A participant information sheet and consent form was attached to the questionnaire packs (see Appendix E). At the end of the questionnaire packs each participant was provided with a debriefing form (see Appendix F).

Across the four schools, a total of 206 potential participants were identified by the teachers. There was a final participation of $n=128$, yielding a completion rate of 62%. The questionnaires were distributed within class time. The researcher was present to answer any questions about completion.

Measures

The following questionnaires were used with participants. Measures were checked for internal reliability using Cronbach's alpha. Recommendations by George and Mallery (2003) were used for parameters to determine levels of consistency (>0.9 - Excellent, >0.8 - Good, >0.7 - Acceptable, >0.6 - Questionable, >0.5 - Poor, and <0.5 - Unacceptable).

Demographic Information

The participants were asked to provide information relating to age, school, year of education, gender and ethnicity.

Self-Compassion Scale (SCS; Neff, 2003)

The SCS is a twenty-six item measure incorporating six subscales: Self-Kindness, Self-Judgement, Common Humanity, Isolation, Mindfulness and Isolation. Responses are given on a five point likert scale, with higher scores representing

higher self-compassion. Previous research has demonstrated concurrent validity, convergent validity and discriminant validity (Neff, Kirkpatrick and Rude, 2007). Studies conducted in the past within USA have demonstrated good internal consistency ($\alpha=.90-.95$; total score) (Neff and McGehee, 2010). When conducting Cronbach's alpha analysis in this sample, the subscales demonstrated a good level of internal consistency, ranging from $\alpha=0.71$ - $\alpha=0.81$. However, when taken as a total score, its internal consistency was questionable ($\alpha=0.66$). This is consistent with recent research, which questions the reliability of using the total scores (Neff, Whitaker and Karl, 2017). Previous articles have highlighted the strength of conceptualising the SCS into positive factors (items: mindfulness, self-kindness, common humanity) and negative factors (items: over-identified, self-judgment, isolation) (Lopez *et al.*, 2015; Körner *et al.*, 2015). This can allow researchers to assign a total positive SCS score and a total negative SCS score by calculating the mean score for each factor set (Körner *et al.*, 2015). Cronbach's alpha for the two factor model demonstrated a good to almost excellent level of internal consistency (positive items $\alpha=0.88$, negative items $\alpha=0.88$). This two factor model was therefore used in this study.

Child and Adolescent Perfectionism Scale- 14 item version (CAPS-14; McCreary et al., 2004)

The CAPS-14 is a fourteen item scale. Young people are asked to respond on a Likert scale with 1 being “false – not at all true of me” and 4 “very true of me”. This adaptation of the scale was developed by McCreary *et al.*, (2004) and is a three factor model, measuring socially prescribed perfectionism (SPP), self-

orientated perfectionism-striving (SOP-S) and self-orientated-critical (SOP-C). This is devised from the original CAPS 22 item scale by Flett *et al.*, (2000). McCreary *et al.*, (2004) reported an inadequate fit when using the CAPS-22 in their sample of 481 African American children. A better fit was found when using the three factor model as suggested above, demonstrating moderate internal consistency across the three factors as well as predictive validity of both anxiety and depression. A further study conducted on a Scottish school population also reported a goodness of fit with this model and good internal consistency across two samples and at follow-up (SOP-striving $\alpha=0.72-0.78$, SOP-critical $\alpha=0.74-0.75$, SPP $\alpha=0.84-0.86$) (O'Connor, Dixon and Rasumssen, 2009). A Cronbach's alpha analysis confirmed an acceptable to good level of internal consistency across the whole measure (CAPS total score $\alpha=0.87$) and the three individual factors (SOP-striving $\alpha=0.79$, SOP-critical $\alpha=0.84$, SPP $\alpha=0.89$) within the current sample. The three sub-scales were used for the study.

Hospital Anxiety and Depression Scale (HADS; Zigmond and Snaith, 1983)

The HADS is a 14 item measure with seven items each assigned to anxiety and depression (Bjelland *et al.*, 2002). The measure is answered on a 0-3 four point response category and so the possible scores range from 0-21 for anxiety and 0-21 for depression. Anxiety and depression can be viewed independently or as a total score. The HADS has correlations between other commonly used measures for anxiety and depression and were in the range from between $r=0.49-0.83$. (Bjelland *et al.*, 2002). It demonstrated good internal consistency within adolescent populations ($\alpha=0.89$; White *et al.*, 1999). Cronbach's alpha analysis conducted on

the current sample demonstrated an acceptable to good internal consistency (anxiety $\alpha=0.87$, depression $\alpha=0.71$, total score $\alpha=0.84$). The total score was used for this study.

BBC Well-Being Scale (Kinderman, Schwannauer, Pontin and Tai, 2011)

The measure comprises of 24 items and rated on a 1-4 Likert scale. The scale is based on items taken from the four domains in the WHOQOL-BREF (WHOQOL Group, 1998) – physical health, psychological health, social relationships and environment. It is also comprised of five domains from the Psychological Well-Being Questionnaire – self acceptance, autonomy, environmental mastery, purpose in life and personal growth (Ryff, 1989) and three items to reflect the negative cognitive triad (Kinderman, *et al.*, 2011). The scale has demonstrated excellent internal consistency ($\alpha=0.94$; 24 items), significant relationships with key demographic variables and measures of concurrent validity (see Kinderman *et al.*, 2011 for full details). A Cronbach's alpha analysis confirmed the excellent level of internal consistency as ($\alpha=0.90$; 24 items) in this sample. The total score was used for this study.

Adolescent Coping Orientation with Problem Experience (A-COPE; Patterson and McCubbin, 1983)

The A-COPE is a fifty-four item questionnaire aimed at measuring the types of coping behaviours used in managing difficulties by children and young people. Respondents are asked to rate their responses to statements asking "how often they...". Responses are on a five point likert scale from 1 - "never" to 5 - "most of

the time". The questionnaire is divided into twelve subscales: ventilating feelings, seeking diversions, developing self-resilience and optimism, developing social support, solving family problems, avoiding family problems, seeking spiritual support, investing in close friendships, seeking professional support, engaging in demanding activity, being humorous and relaxing (McCubbin, 1983). The measure has demonstrated a range of internal consistency across the subscales from $\alpha=0.50-0.76$; poor to good, but a good consistency level for the total coping score ($\alpha=0.89$; McCubbin *et al.*, 2001). The Cronbach's alpha analysis conducted confirmed a good consistency level for the total score ($\alpha=0.83$). The total score was used for this study.

Ethical approval

Ethical permission was granted from the University of Edinburgh School of Health in Social Science Ethics Research Committee and Edinburgh City Council Education Services. A copy of the confirmation letters can be found in Appendix G.

Statistical Analysis

Power Analysis

An *a priori* power analysis was conducted to determine the necessary sample size. Similar studies have not been conducted in the past exploring all of these variables with an adolescent population. However, reference was made to a large scale validation study of the self-compassion scale with an adult population by Neff

(2003). This study demonstrated a significant relationship between self compassion and perfectionism, anxiety and depression with a medium to large effect size ($r=-0.57$, $r=0.65$ and $r=0.51$ respectively) with a sample of undergraduate students. It was anticipated that regression would be used for analysis therefore an *a priori* power analysis was conducted using G* Power (Faul *et al.*, 2009). Consistent with recommendations by Sink and Stroh (2006), statistical significance was set at 0.05 and power level was set at 0.80. A medium effect size of 0.30 was set for the purpose of this study due to limited research previously conducted and in light of a more modest anticipated sample size compared to that of Neff (2003). A minimum sample size of 82 was determined. Hence the current sample was deemed to have adequate statistical power to support the analysis plan for the study.

Statistical analyses

All data collected through questionnaires were anonymised and entered into SPSS (version 22). Demographic information relating to the participants was explored through descriptive statistics to characterise the sample. T-tests were used to explore the impact of differences between and within groups of key variables. Exploration of the relationship between perfectionism and self-compassion was initially investigated through correlation. Correlation analyses were conducted using bootstrapping re-sampling method using 2000 bootstrap resamples. Bootstrapping is a non-parametric method that approximates circuitous effect and its 95% confidence intervals. It is widely used in correlation models (Wright, London and Field, 2011). Micceri (1989) highlighted that often real data can

deviate greatly from normal distribution, implying that standard error and confidence intervals (SE CI) are rarely accurate. Therefore traditionally if researchers protect against falsely rejecting a hypothesis in the presence of outliers, they will tend to overestimate the SE and width of the CI, which in turn decreases the power of the study (Wilcox, 1998). Bootstrapping therefore provides a means of finding accurate SE and CI and can be used with a variety of statistical analyses (Wright, London and Field, 2011). Efron and Tibshirani (1993) recommend using a bias-corrected and accelerated method of bootstrapping so that if the mean of the bootstrapping is biased then this method will help to correct the bias. The acceleration refers to the limits of the confidence interval converging more quickly (Wright, London and Field, 2011). Based on this recommendation, this process was applied to the dataset.

Relationships between perfectionism, self-compassion, psychological distress and psychological well-being were initially analysed through multiple regression. Data was entered using forced entry method as recommended by Studenmund and Cassidy (1987) and Field (2013). This entry method was used as this preliminary stage was exploratory and the variables had never been investigated collectively before. Following this, further analysis was conducted using hierarchical multiple regression, inputting data in a hierarchical manner based on the significance of variables within the sample and from the initial multiple regression analyses. In the hierarchical multiple regressions gender was inputted as the first variable due to differences detected in scores of psychological distress and self-compassion in the sample. The main rationale for this was to determine whether the effects of gender

had an influence on the dependent variables in isolation or whether its combination with other factors increase influence. Bootstrapping was not used for the regression models as recommended by Field (2013); however, robustness was confirmed through examination of the residuals as discussed below.

Data screening

To assess for normal distribution, data was initially analysed through the formation of histograms to identify patterns of distribution. Values of skewness and kurtosis were converted into z-scores as recommended by Field (2013). This data is presented in Table H.1 in Appendix H. Field (2013) recommends that z scores greater than ± 2.58 at $p < 0.01$ or z scores greater than ± 1.96 at $p < 0.05$ indicates significant issues with skewness or kurtosis. As can be seen in the data, all z-scores were non-significant at both levels; therefore it was assumed that the data was normally distributed.

For the regression analyses linearity and lack of homoscedasticity was confirmed through partial regression plots as well as a plot of studentized residuals against the predicted values. According to Field (2013) the Durbin-Watson (DW) statistic should fall between 1 and 3 to confirm independent errors, the DW in all cases met this standard. Tolerance values in all analyses were greater than 0.1 and Variation Inflation Factors (VIF) were less than 10, therefore no multicollinearity was assumed in all cases. There were no studentized deleted residuals greater than ± 3 standard deviations, no leverage values greater than 0.2 and values for Cook's

distance above 1. Normality was confirmed through assessment of Q-Q plots. All parameters were recommended by Field (2013).

Missing data

Previous authors have recommended that items with >10% of missing data should be excluded (Cohen and Cohen, 1983; Fox-Wasylyshyn and El-Masri, 2005). Item 20 in the BBCWBS was deleted as n=14 (10.9%) had failed to complete it. Internal consistency remained good at $\alpha=0.89$. This deletion technique is only recommended where there is a clear pattern as to why the respondents may have missed this item (Fox-Wasylyshyn and El-Masri, 2005). It is likely that this was not completed by some in the sample due to the nature of the question relating to sexual activity, and the respondents being aged between 14-18 years of age.

Eleven items had <10% of missing data (three SCS, three BBCWBS and five ACOPE). The deletion technique was not used to overcome this issue as this process can often pose a risk for bias and assume that the data is not missing completely at random (MCAR) (Tabachnick and Fidell, 2001). Imputation technique, namely case mean substitution (Raymond, 1986) was used. Therefore the respondent's mean score was based upon the items that are present to the missing score for that individual (Raymond, 1986). It is a preferred method as it uses data supplied by a case rather than using data provided by other cases. Previous authors have referred to its robustness (Roth, Switzer and Switzer, 1999; Downey and King, 1998).

Results

Descriptive Statistics

Demographic details of all participants are displayed below in Table 2.1.

Table 2.1: Participant demographic details

Demographic details (n=128)		
Age in years		
Mean (SD)		16.24 (0.91)
Range		14-18
		N (%)
Gender		
Female		82 (64.1%)
Male		46 (35.9%)
Ethnicity		
White (English/Welsh/Scottish/Northern Irish/British		108 (84.4%)
Mixed/multiple ethnic groups (white and Asian)		2 (1.6%)
Asian/Asian British - Indian		1 (0.8%)
Asian/Asian British - Pakistani		1 (0.8%)
Asian/Asian British - Chinese		1 (0.8%)
Black African/Caribbean/Black British - African		2 (1.6%)
Other (included German, Italian, Polish, South American)		12 (9.4%)
Prefer not to say		1 (0.8%)

Descriptive statistics for all variables are displayed in Table 2.2. Paired sample t-tests and independent t-tests were conducted to explore significant differences. Mean total score on the HADS indicated high levels of distress within the sample. Females reported higher levels of distress ($M = 16.44$, $SD = 6.75$) compared to males ($M = 12.63$, $SD = 6.18$). This difference was significant $t(126) = -3.15$; $p < 0.05$, with a medium effect size, $d = 0.56$.

With regards to the SCS, females had a higher mean on the negative items ($M = 3.44$, $SD = 0.72$) compared to males ($M = 2.92$, $SD = 0.79$). This result was statistically significant $t(126) = -3.83$; $p < 0.001$, with a medium-large effect size, $d = 0.72$. In contrast, females also reported a lower mean on the positive items ($M = 2.55$, $SD = 0.68$) compared to males ($M = 2.99$, $SD = 0.74$). This was also statistically significant $t(126) = 3.41$; $p < 0.01$, with a medium effect size of $d = 0.65$.

There was no significant difference for gender on any of the perfectionism subscales, BBCWBS and the ACOPE. Pearson correlations revealed that age was not significantly correlated with any of the measures.

Table 2.2: Descriptive statistics for all variables

Measure	Males (SD)	<u>Mean</u> Female (SD)	Total (SD)	Range of scores (total sample)
HADS - Total Score	12.63 (6.18)	16.44 (6.75)	15.07 (6.78)	0-30
CAPS - SOP-S	10.89 (3.16)	10.46 (2.86)	10.62 (2.97)	3-15
CAPS - SOP-C	9.85 (3.88)	11.70 (3.90)	11.03 (3.98)	4-19
CAPS - SPP	20.04 (7.38)	21.93 (7.04)	21.25 (7.18)	7-35
SCS - Positive	2.99 (0.76)	2.55 (0.68)	2.71 (0.74)	1-5
SCS - Negative	2.92 (0.79)	3.44 (0.72)	3.25 (0.78)	1-5
BBCWBS Total Score	64.26 (11.08)	58.00 (11.01)	60.25 (11.39)	32-90
ACOPE Total Score	141.89 (24.85)	148.43 (18.85)	146.08 (21.34)	98-192

Hospital Anxiety and Depression Scale (HADS) - Total score, Child and Adolescent Perfectionism Scale (CAPS): Self-Orientated Perfectionism - Striving (SOP-S), Self-Orientated Perfectionism - Critical (SOP-C), Socially-Prescribed Perfectionism (SPP). Self-Compassion Scale - Positive items only (SCS - Positive), Self-Compassion Scale - Negative items only (SCS - Negative). BBC Well-being Scale Total Score (BBCWBS total score). Adolescent Coping Orientation for Problem Experience total score (ACOPE total score). Range of scores (minimum to maximum scores across sample). Standard deviation (SD).

Research Question 1: What is the association between perfectionism and self-compassion?

Hypothesis 1: There will be a relationship between perfectionism and self-compassion.

Pearson's bivariate correlation was conducted between the perfectionism and SCS subscales and the results are presented in Table 2.3. As hypothesised, perfectionism and self-compassion showed a significant relationship. SOP-C was positively correlated with SCS-negative with a medium effect size. SPP was also positively correlated with SCS-negative but demonstrated an inverse relationship with SCS-positive, both results with a medium effect size.

Table 2.3: Bivariate correlation between perfectionism and self-compassion (associated *p* values)

	CAPS (SOP-C)	CAPS (SOP-S)	CAPS (SPP)	SCS - Negative	SCS - Positive
CAPS - (SOP-C)	-				
CAPS - (SOP-S)	-.484** (.000)	-			
CAPS - (SPP)	.411** (.000)	.159 (.072)	-		
SCS - Negative	.405** (.000)	-.031 (.726)	.419** (.000)	-	
SCS - Positive	-.324 (.000)	.030 (.733)	-.290** (.001)	-.478** (.000)	-

** $p < .001$

Research Question 2: Do perfectionism and self-compassion predict psychological distress and psychological well-being?

Hypothesis 2a: High levels of perfectionism will be associated with higher levels of psychological distress and lower levels of psychological well-being.

Initially both the BBCWBS and the ACOPE were going to be used as measures of psychological well-being; however, the ACOPE demonstrated poor correlations with all variables, and was therefore not used for any further analyses. Due to the gender differences detected in both the HADS and the SCS scores, gender was also included in multiple regression analyses that incorporated either of these measures; however, gender was found to be not significant in the analysis and therefore not presented in the tables below. The influence of gender was further explored in hierarchical multiple regression models for hypothesis 2c and is presented later.

Multiple regression demonstrated that psychological distress was predicted from perfectionism with $R^2 = 0.24$, adjusted $R^2 = 0.21$, a medium effect size (Cohen, 1988). The overall regression model statistically predicted psychological distress $F(4,123) = 9.53$, $p < 0.001$. Psychological well-being was predicted from perfectionism with $R^2 = 0.36$, adjusted $R^2 = 0.35$, a large effect size (Cohen, 1988). The overall regression model statistically predicted psychological well-being $F(3,124) = 23.56$, $p < 0.001$. All three subscales of perfectionism added statistical significance to the prediction of both psychological distress and psychological well-being (when each variable was held constant). The regression coefficients confirmed a positive relationship between maladaptive perfectionism (SOP-C and

SPP) and psychological distress and an inverse relationship with psychological well-being. Conversely there was a positive relationship between SOP-S and psychological well-being and an inverse relationship with psychological distress. The regression coefficients and standard errors can be found in Table 2.4.

Table 2.4: Summary of multiple regression analysis (perfectionism and psychological distress¹ and perfectionism and psychological well-being)

Variable	B	SE_B	β
Psychological Distress (HADS)			
Intercept (Constant)	8.45	2.99	
SOP-S	-0.66	0.21	-0.29**
SOP-C	0.39	0.17	0.23*
SPP	0.26	0.82	0.28**
Psychological well-being (BBCWBS)			
Intercept (Constant)	59.25	3.63	
SOP-S	2.14	0.31	0.56**
SOP-C	-1.38	0.25	-0.48**
SPP	-0.31	0.13	-0.19*

** $p < 0.001$, * $p < 0.05$, B = unstandardized regression coefficient, SE_B = standard error of the coefficient, β = standardized coefficient. ¹ Gender incorporated.

Research Question 2: Do perfectionism and self-compassion predict psychological distress and psychological well-being?

Hypothesis 2b: High levels of self-compassion will be associated with lower levels of psychological distress and higher levels of psychological well-being.

Multiple regression demonstrated that psychological distress was predicted from self-compassion with $R^2 = 0.41$, adjusted $R^2 = 0.40$, a large effect size (Cohen,

1988). The overall regression model statistically predicted psychological distress $F(3,124) = 29.11, p < 0.001$. Psychological well-being was predicted from self-compassion with $R^2 = 0.44$, adjusted $R^2 = 0.43$, a large effect size (Cohen, 1988). The overall regression model statistically predicted psychological well-being $F(3,124) = 32.32, p < 0.001$. Both SCS-positive and SCS-negative added statistical significance to the prediction of both psychological distress and psychological well-being (when each variable was held constant). The regression coefficients confirmed a positive relationship between SCS-positive and psychological well-being and an inverse relationship with psychological distress. Conversely there was a significant relationship between SCS-negative and psychological distress and an inverse relationship with psychological well-being. The regression coefficients and standard errors can be found in Table 2.5.

Table 2.5: Summary of multiple regression analysis (self-compassion and psychological distress² and self-compassion and psychological well-being²)

Variable	B	SE_B	β
Psychological Distress (HADS)			
Intercept (Constant)	8.30	3.90	
SCS-positive	-2.51	0.73	-0.27**
SCS-negative	3.83	0.69	0.45**
Psychological well-being (BBCWBS)			
Intercept (Constant)	58.25	6.42	
SCS-positive	6.72	1.19	0.44**
SCS-negative	-4.55	1.13	-0.32**

** $p < 0.001$, B = unstandardized regression coefficient, SE_B = standard error of the coefficient, β = standardized coefficient. ² Gender incorporated.

Research Question 2: Do perfectionism and self-compassion predict psychological distress and psychological well-being?

Hypothesis 2c: Perfectionism and self-compassion (interaction) will have an impact on levels of psychological distress and psychological well-being.

Two separate hierarchical regressions were performed to explore this hypothesis. Perfectionism sub-scales and self-compassion subscales were grouped together according to negative/maladaptive and positive/adaptive foci. These factors were combined to determine the interaction of these variables for the main dependent variables: psychological distress and psychological well-being. Gender was entered as the first variable in both regression models due to its differences detected in scores of self-compassion and psychological distress in the population. The other subsequent variables were entered in a hierarchical manner according to the results detected in the previous multiple regression models (hypothesis 2a and 2b).

1. Hierarchical Regression

Dependent Variable: Psychological Distress

Independent variables (entered in order): Gender, Self-compassion (SCS-negative) and Maladaptive perfectionism (SPP, SOP-C).

A hierarchical multiple regression was conducted to determine if the addition of self-compassion (SCS-negative) and maladaptive perfectionism (SPP and SOP-C) improved the prediction of psychological distress over gender alone. See Table 2.6

for full details on each regression model. Model 1 was statistically significant ($R^2 = 0.07$, adjusted $R^2 = 0.06$, $F(1, 126) = 9.94$, $p < 0.001$), with a small effect size (Cohen, 1988). The addition of self-compassion (SCS-negative) in Model 2 led to a statistically significant increase ($R^2 = 0.36$, adjusted $R^2 = 0.35$, $F(2, 125) = 34.68$, $p < 0.001$) with the variance explained increasing by 28% with the inclusion of self-compassion. The addition of SPP (maladaptive perfectionism) in Model 3 and subsequently the addition of SOP-C (maladaptive perfectionism) in Model 4 did not lead to any statistically significant increases. These results demonstrate that gender and self-compassion (negative) may be a predictor of psychological distress.

Table 2.6: Hierarchical multiple regression of model of predictors of psychological distress

Model	B	SE _B	β
Model 1			
(Constant)	8.82	2.07	
Gender	3.81	1.21	0.27**
$R^2 = 0.07$ Adjusted $R^2 = 0.06$ $F = 9.94^{**}$ $\Delta R^2 = 0.07$ $\Delta F = 9.94^{**}$			
Model 2			
(Constant)	-2.75	2.33	
Gender	1.25	1.07	0.09
Self-compassion (SCS-negative)	4.85	0.65	0.56**
$R^2 = 0.36$ Adjusted $R^2 = 0.35$ $F = 34.68^{**}$ $\Delta R^2 = 0.28$ $\Delta F = 55.16^{**}$			
Model 3			
(Constant)	-3.76	2.41	
Gender	1.27	1.06	0.91

Self-compassion (SCS-negative)	4.41	0.71	0.51**
SPP (Maladaptive perfectionism)	0.11	0.07	0.12
$R^2 = 0.37$ $Adjusted R^2 = 0.35$ $F = 24.11^{**}$ $\Delta R^2 = 0.01$ $\Delta F = 2.25$			
Model 4			
(Constant)	-3.58	2.43	
Gender	1.34	1.07	0.09
Self-compassion (SCS-negative)	4.52	0.73	0.53**
SPP (Maladaptive perfectionism)	0.13	0.08	0.13
SOP-C (Maladaptive perfectionism)	-0.08	0.14	-0.05
$R^2 = 0.37$ $Adjusted R^2 = 0.35$ $F = 18.07^{**}$ $\Delta R^2 = 0.02$ $\Delta F = 0.34$			

** $p < 0.001$

2. Hierarchical Regression

Dependent Variable: *Psychological Well-being*

Independent variables (entered in order): *Gender, Adaptive perfectionism (SOP-S) and Self-compassion (SCS-positive).*

A hierarchical multiple regression was conducted to determine if the addition of adaptive perfectionism (SOP-S) and self-compassion (SCS-positive) improved the prediction of psychological well-being over gender alone. The regression models are detailed below in Table 2.7. Model 1 was statistically significant ($R^2 = 0.07$, adjusted $R^2 = 0.06$, $F(1, 126) = 9.48$, $p < 0.05$), with a small effect size (Cohen, 1988). The addition of adaptive perfectionism (SOP-S) in Model 2 led to a statistically significant increase ($R^2 = 0.15$, adjusted $R^2 = 0.13$, $F(2, 125) = 10.73$, $p < 0.001$), with a medium effect size (Cohen, 1988). Explained variance only

increased slightly by 8% with the inclusion of adaptive perfectionism. The full model, which included the addition of self-compassion (SCS-positive) in Model 3 demonstrated the most significant finding and was the best fit for the data ($R^2 = 0.44$, adjusted $R^2 = 0.43$, $F(3, 124) = 32.93$, $p < 0.001$), with a large effect size (Cohen, 1988). The explained variance increased by 29% with the inclusion of self-compassion. These findings highlight that gender, adaptive perfectionism and self-compassion are significant predictors of psychological well-being. The findings also highlight the significant role of self-compassion in this relationship with the variance showing the most significant increase following the inclusion of this variable.

Table 2.7: Hierarchical multiple regression of model of predictors of psychological well-being.

Model	B	SE_B	β
Model 1			
(Constant)	70.52	3.48	
Gender	-6.21	2.03	-0.27*
$R^2 = 0.07$ Adjusted $R^2 = 0.06$ $F = 9.48^*$ $\Delta R^2 = 0.07$ $\Delta F = 9.48^*$			
Model 2			
(Constant)	58.47	4.91	
Gender	-5.81	1.6	0.25*
Adaptive perfectionism (SOP-S)	1.07	0.32	0.28*
$R^2 = 0.15$ Adjusted $R^2 = 0.13$ $F = 10.73^{**}$ $\Delta R^2 = 0.08$ $\Delta F = 11.21^*$			
Model 3			
(Constant)	28.73	5.44	
Gender	-1.92	1.67	-0.81
Adaptive perfectionism (SOP-S)	1.04	0.26	0.27**

Self-compassion (SCS-positive)	8.71	1.08	0.57**
$R^2 = 0.44$ $Adjusted R^2 = 0.43$ $F = 32.93^{**}$ $\Delta R^2 = 0.29$ $\Delta F = 64.78^{**}$			

** $p < 0.001$, * $p < 0.05$

Discussion

Adolescence is known to be a developmental stage with increased risk of developing psychopathology, such as anxiety, depression and stress (Garber, 2010; Hammen, 2009). Previous research has suggested that perfectionism may be a perpetuating factor (O'Connor, Rasmussen and Hawton, 2010; Ingram and Price, 2001; Flett and Hewitt, 2002). Research in adult populations has demonstrated that self-compassion can help to reduce psychological distress, whilst conversely building resilience and promoting psychological well-being (Samaie and Farahani, 2011; Neff, 2003). There are limited studies that have been conducted with adolescents in this area. With this in mind, the aim of the current study was to extend the literature by exploring the impact of perfectionism and self-compassion on psychological distress and psychological well-being in the adolescent population.

Results of this study supported the hypothesis that there is a relationship between perfectionism and self-compassion in an adolescent population. Specifically, measures of maladaptive perfectionism (SOP-C and SPP) demonstrated a positive correlation with the negative items on self-compassion and conversely held a negative relationship with self-compassion (positive items only). Adaptive perfectionism (SOP-S) was positively correlated with the positive items of self-compassion and negatively correlated with the negative items of self-compassion. All findings had a medium effect size. These results are consistent with previous

findings in an adult college sample (Neff, 2003). No significant gender differences were detected in any of the perfectionism subscales. This is consistent with other studies that have used the three factor model of perfectionism (O'Connor *et al.*, 2010; McCreary *et al.*, 2004). In the current study, a significant gender difference was found on the self-compassion subscales. Females had a higher score on the SCS-negative and lower score on the SCS-positive compared to their male peers. This result was significant with a medium effect size. This gender effect is inconsistent with Körner *et al.*, (2015), which was conducted in an adult population, making it difficult to draw direct comparisons; however, it could be hypothesised that self-compassion differences between males and females diminish as they get older.

Consistent with our hypothesis, perfectionism was associated with higher levels of psychological distress and lower levels of psychological well-being with a medium and large effect size respectively. All three subscales of perfectionism added statistical significance to the prediction of both psychological distress and psychological well-being. The current study did not compare anxiety and depression in isolation as the HADS total score was felt to be a good reflection of psychological distress and demonstrated good reliability. Therefore it was not possible to compare anxiety and depression with regards to each of the factors of perfectionism; however, the results of the current study highlight the predictive capacity of perfectionism on psychological distress. This is consistent with previous research conducted by O'Connor *et al.*, (2010). Factors consistent with maladaptive perfectionism (SPP and SOP-C) demonstrated a positive relationship

with psychological distress and a negative relationship with psychological well-being. Conversely adaptive perfectionism (SOP-S) demonstrated a positive relationship with psychological well-being and a negative relationship with psychological distress. Whilst previous studies have failed to demonstrate a significant correlation with SOP-S (O'Connor *et al.*, 2010; McCreary *et al.*, 2004), the current study showed that this particular factor held a stronger relationship with both psychological distress and psychological well-being compared to the other subscales. This is an unexpected result given that the three factor model of perfectionism is weighted more on factors consistent with maladaptive perfectionism. In this study SOP-S did not significantly correlate with either SPP or SOP-C, suggesting that it may hold more weight when related to both psychological distress and psychological well-being in isolation. Perfectionism as a three factor model has only been used in few studies (O'Connor *et al.*, 2010; McCreary *et al.*, 2004); therefore the performance and sensitivity of the factors require further investigation.

It was hypothesised that high levels of self-compassion would be associated with lower levels of psychological distress and higher levels of psychological well-being. The findings from the current study uphold the hypothesis. The results demonstrated that psychological distress and psychological well-being could be predicted by self-compassion, with a large effect size in both cases. Both the SCS-negative (negative items only) and SCS-positive (positive items only) added statistical significance to the regression model. A significant positive relationship was detected between SCS-positive and psychological well-being and an inverse

relationship with psychological distress. The current study also demonstrated a significant positive relationship between SCS-negative and psychological distress and a negative relationship with psychological well-being. The findings from the current study are consistent with Neff and McGehee (2010), which also demonstrated an inverse relationship between self-compassion and psychological distress in an adolescent population. Additionally, the significant relationship between self-compassion and psychological well-being in this study confirms previous findings reported in research with adults (Baer, Lykins and Peters, 2012; Neff, 2003) and in adolescent populations (Barry, Loflin and Doucette, 2015). Direct comparisons between the current study and the aforementioned studies should be treated with caution due to the different conceptualisations of self-compassion used across these studies. The current study incorporated a two factor model of self-compassion (SCS-positive and SCS-negative), a model only previously used with adult samples. In particular, Lopez *et al.*, (2015) with an adult community sample reported a moderate to strong relationship between negative affect and the negative items of the SCS and equally between positive affect and the positive items of the SCS. The current study adds to the literature by providing further evidence of the potential efficacy of using the two factor model of self-compassion, particularly with adolescent populations.

Whilst previous studies have found an inverse relationship between perfectionism and self-compassion (Neff, 2003), no previous studies have examined the combined effect of these variables and what impact they have on psychological distress and psychological well-being. Our findings suggested that the interaction

between perfectionism and self-compassion have an impact on psychological well-being but not on psychological distress. Due to the gender effect detected on both measures of psychological distress and self-compassion, two separate hierarchical multiple regression models were compiled which attempted to control for the effects of gender. The model demonstrated that gender alone and the addition of self-compassion (negative) predicted psychological distress. Incorporating both measures of maladaptive perfectionism (SOP-C and SPP) failed to provide a significant result. These findings suggest that self-compassion is a significant factor particularly when coupled with gender. Scores in self-compassion were significantly higher in females, therefore it could be suggested that females who demonstrate negative self-compassion have a higher likelihood of experiencing psychological distress. These findings are consistent with previous research in this area (Neff, 2003).

The second hierarchical regression model demonstrated that the combination of gender, adaptive perfectionism and self-compassion (positive) predicted psychological well-being, even after gender was controlled. Interestingly, it was the addition of the final variable of self-compassion (positive) that led to the most significant result with explained variance increasing by nearly one-third. This finding highlights the potential role of self-compassion (positive) in relation to psychological well-being. The findings demonstrate the differences in application of adaptive perfectionism and self-compassion (positive) in that the former may not necessarily contribute to a sense of well-being and that the use of self-compassion strategies may be a significant strategy that aids in the development of

psychological well-being. This may particularly be the case in females, due to the differences in gender detected in scores of self-compassion.

The latter results highlight significant findings regarding the interaction of perfectionism and self-compassion as well as the role of self-compassion in isolation. Firstly, the significant interaction between perfectionism and self-compassion in relation to psychological well-being may lie in the factors being explored in both constructs. Previous research has highlighted the efficacy of conceptualising self-compassion as comprising of positive and negative factors (Körner *et al.*, 2015; Lopez *et al.*, 2015; Montero-Martin *et al.*, 2016). This parallels the conceptualisation of perfectionism, which is also comprised of (positive) and maladaptive (negative) aspects. There are clear similarities between the constructs of positive self-compassion and adaptive perfectionism (SOP-S). The interaction between SOP-S and positive self-compassion and the impact on psychological well-being appears consistent with Neff (2003). Neff (2003) reported self-compassion can act as a means of maximising potential; a conceptualisation that echoes similarities with SOP-S. Applying this to the results from the current study, it could be suggested that those who are higher in positive striving (adaptive perfectionism) and who use positive aspects of self-compassion may experience higher levels of positive psychological well-being.

Secondly, it was noteworthy that self-compassion played a more significant role in the prediction of psychological distress and psychological well-being. With regards to psychological distress, the role of negative self-compassion may be

consistent with reports by Montero-Martin *et al.*, (2016), that these factors in particular have a stronger relationship with psychopathology. The non-significant impact of maladaptive perfectionism when added to self-compassion (negative) in predicting psychological distress may be consistent with previous research using the three factor model of perfectionism. McCreary *et al.*, (2004) have reported that the links between maladaptive perfectionism and psychopathology can be weakened when other factors are incorporated (McCreary *et al.*, 2004). Positive self-compassion held a stronger relationship with psychological well-being compared to adaptive perfectionism. Therefore, it may be that the true effects of perfectionism (maladaptive and adaptive) are weakened or overshadowed by the inclusion of both self-compassion factors. There is a lack of research exploring the interaction between perfectionism and self-compassion in both the adult and adolescent population, therefore further research is required exploring this area further particularly comparing the positive and negative elements of both constructs.

Limitations

Firstly, the current study was a cross-sectional design and therefore conclusions about causation cannot be made. Whilst relationships between the main variables were significant, these were assessed through correlation and regression, which precludes our ability to draw conclusions regarding causal relationships. For example, Damian *et al.*, (2017) postulated that perfectionism and psychopathology may exist in a bidirectional relationship. Additionally, it may be that other factors not considered are more of a significant influence. Further research exploring

mediating and moderating factors may help elucidate the complex interactions between these variables. The sample used was limited in diversity. The majority of the participants were female and Caucasian recruited from a school setting. It is difficult to generalise the findings from the current study beyond this context. Further research is required particularly in clinical settings to explore this area. The current study used self-report measures and whilst these demonstrated good internal reliability, knowledge about their efficacy (particularly with adolescents) is limited. In particular, self-compassion was measured using a positive and negative conceptualisation. Whilst this has been substantiated by previous studies (Montero-Marin *et al.*, 2016; Lopez *et al.*, 2015; Körner *et al.*, 2015), these were all with adult populations. There is ongoing debate regarding the conceptualisation of self-compassion and what factors should be considered as part of this measurement (Neff, Whitaker and Karl, 2017). It may be that other conceptualisations of self-compassion would be a better fit for adolescent populations. Similarly, in the current study, perfectionism was measured as a three factor model consistent with previous adolescent studies (O'Connor *et al.*, 2010; McCreary *et al.*, 2004); however knowledge about the efficacy of this conceptualisation (compared to others) is also limited and requires further clarification.

Clinical and Theoretical Implications

Despite the limitations mentioned, the current study demonstrated a significant relationship between perfectionism and self-compassion; namely that the positive and negative aspects of each construct both relate to each other positively and

inversely. Both constructs also appear to impact on psychological well-being and self-compassion appears to impact on psychological distress. Self-compassion demonstrated the most significant relationships with both psychological distress and psychological well-being. Whilst there is already a strong evidence base for the use of self-compassion in reducing distress (MacBeth and Gumley, 2012) and promoting well-being (Neff, 2003); there may be a significant role self-compassion can play in responding to psychological distress and progressing the more adaptive side of perfectionism. The use of treatment models with a focus on self-compassion may therefore be an option in working with young people who experience distress. Such approaches have been shown to be effective with adult populations (Heeren and Philippot, 2011; Rimes and Chalder, 2010; Segal, Williams and Teasdale, 2002); however, the findings from the current study highlight the potential efficacy of using this with adolescents. For example, self-compassion may be a treatment option for those professionals working in clinical contexts with adolescents where maladaptive perfectionism precipitates or perpetuates psychological distress. Additionally, self-compassion may also be beneficial in academic settings particularly during stressful periods for adolescents, i.e. exams or transitions into further education.

Conclusions

The current study has demonstrated a link between perfectionism, self-compassion, psychological distress and psychological well-being in a non-clinical adolescent population. Despite methodological limitations, the study provides some evidence for the use of self-compassion as a means of addressing maladaptive perfectionism

(and associated distress) whilst also building psychological well-being. Further research is required exploring this area in adolescent populations to determine the precise nature of the relationships of the factors discussed.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

References

- Adler, P.A., & Adler, P. (1998). *Peer power: preadolescent culture and identity*. New Brunswick: NJ: Rutgers University Press.
- Arale, K. M. (2010). The connection between perfectionism and depression, anxiety, and anger with consideration of ethnicity. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 70(7-B), 4474. Retrieved from http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqdiss&rft_dat=xri:pqdiss:3365690%5Cnhttp://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc7&NEWS=N&AN=2010-99020-294
- Argus, G., & Thompson, M. (2008). Perceived social problem solving, perfectionism, and mindful awareness in clinical depression: An exploratory study. *Cognitive Therapy and Research*, 32(6), 745–757. <http://doi.org/10.1007/s10608-006-9102-1>
- Baer, R.A., Lykins, E.L.B., & Peters, J. R. (2012). Mindfulness and self-compassion as predictors of psychological well-being in long-term meditators and matched nonmeditators. *The Journal of Positive Psychology*, 7, 230–238. <http://doi.org/10.1080/17439760.2012.674548>
- Barry, C. T., Loflin, D. C., & Doucette, H. (2015). Adolescent selfcompassion: Associations with narcissism, self-esteem, aggression, and internalizing symptoms in at-risk males. *Personality and Individual Differences*, 77, 118–123.
- Benson, E. (2003, November). The many faces of perfectionism. *American*

Psychological Association, 18. Retrieved from

<http://www.apa.org/monitor/nov03/manyfaces.aspx>

Bjelland, I., Bjelland, I., Dahl, A. a, Dahl, A. a, Haug, T. T., Haug, T. T., ...

Neckelmann, D. (2002). The validity of the Hospital Anxiety and Depression Scale: an updated literature review. *Journal of Psychosomatic Research*, 52, 69–77. [http://doi.org/10.1016/S0022-3999\(01\)00296-3](http://doi.org/10.1016/S0022-3999(01)00296-3)

Bluth, K., & Blanton, P, W. (2015). The influence of self-compassion on emotional well-being among early and older adolescent males and females. *Journal of Positive Psychology*, 13(3), 219–230.

<http://doi.org/10.1080/17439760.2014.936967>

Bluth, K., Robertson, P, N, E., Gaylord, S, A., Faurot, K, R., Grewen, K, M.,

Arzon, S., & Girdler, S, S. (2015). Does self-compassion protect adolescents from stress? *Journal of Child and Family Studies*, October.

<http://doi.org/10.1007/s10826-015-0307-3>

Brinthaup, T.M., & Lipka, R. P. (2002). *Understanding early adolescent self and identity: Applications and interventions*. Albany: NY: State University of New York Press.

Carr, A. (2006). *The handbook of child and adolescent clinical psychology* (2nd ed.). East Sussex: Routledge.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences (2nd Edition)*. Hillsdale, NJ: Erlbaum.

Damian, L.E., Negru-Subtirica, O., Stroeber, J., & Baban, A. (n.d.). Perfectionistic Concerns Predict Increases in Adolescents' Anxiety Symptoms: A Three-Wave Longitudinal Study (in press). *Anxiety, Stress, and Coping*.

- Demo, D.H., & Savin-Williams, R. C. (1992). Self-concept stability and change during adolescence. In R.P. Lipka & T.M. Brinthaupt (Ed.), *Self-perspectives across the lifespan* (pp. 116–148). Albany: NY: State University of New York Press.
- Dibartolo, P.M., & Varner, S. P. (2012). How a children's cognitive and affective responses to a novel task relate to the dimensions of perfectionism. *Journal of Rational-Emotive & Cognitive Behavior Therapy*, 30, 62–76.
<http://doi.org/10.1007/s10942-011-0130-8>
- Downey, R.G., & King, C. V. (1998). Missing data in likert ratings: A comparison of replacement methods. *Journal of General Psychology*, 125, 175–191.
- Dunkley, D.M., Blankstein, K.R., Masheb, R.M., & Grilo, C. M. (2006). Personal standards and evaluative concerns dimensions of “clinical” perfectionism: A reply to Shafran et al. (2002, 2003) and Hewitt et al. (2003). *Behavior Research and Therapy*, 44, 63–84. <http://doi.org/10.1016/j.brat.2004.12.004>
- Efron, B., & Tibshirani, R. (1993). *An introduction to the Bootstrap*. Boca Raton; FL: Chapman & Hall.
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, 38(4), 1025–1034.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W.W. Norton.
- Essau, C.A., Leung, P.W.L., Conradt, J., Cheng, H., & Wong, T. (2008). Anxiety symptoms in Chinese and German adolescents: their relationship with early learning experiences, perfectionism and learning motivation. *Depression and Anxiety*, 25, 801–810.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power

analyses using G*Power 3.1: tests for correlation and regression analyses.

Behavior Research Methods, 41(4), 1149–1160.

<http://doi.org/10.3758/BRM.41.4.1149>

Field, A. (2013). *Discovering statistics using IBM SPSS statistics (4th Edition)*

(Fourth). London: Sage Publications.

Flett, G. L., Hewitt, P. L., Boucher, D. J., Davidson, L. A., & Munro, Y. (2000).

The Child and Adolescent Perfectionism Scale: Development, validation, and association with adjustment. *Unpublished Manuscript*.

Flett, G.L., & Hewitt, P. . (2014). A proposed framework for preventing

perfectionism and promoting resilience and mental health among vulnerable children and adolescents. *Psychology in the Schools*, 51, 899–918.

<http://doi.org/10.1002/pits.21792>

Flett, G.L., & Hewitt, P. L. (2002). *Perfectionism: Theory, research and treatment*.

Washington, DC: American Psychological Association.

Flett, G.L., & Hewitt, P. L. (2012). Perfectionism and cognitive factors in distress

and dysfunction in children and adolescents: Introduction to the special issue.

Journal of Rational-Emotive and Cognitive-Behavior Therapy, 30, 53–61.

Flett, G.L., Hewitt, P.L., Besser, A., Chang, S., Vaillancourt, T., Boucher, D.,

Munro, Y., Davidson, L.A., & Gale, O. (2016). The Child–Adolescent

Perfectionism Scale: Development, Psychometric Properties, and Associations

With Stress, Distress, and Psychiatric Symptoms. *Journal of*

Psychoeducational Assessment, 34(7), 634–652.

<http://doi.org/10.1177/0734282916651381>

Flett, G.L., Hewitt, P.L., Blankstein, K.R., & Mosher, S. W. (1995). Perfectionism,

life events and depressive symptoms: a test of a diathesis-stress model.

Current Psychology: Developmental, Learning, Personality, Social., 14(2), 112–137.

Flett, P.L., Hewitt, P.L., Boucher D.J., Davidson, L.A., & Munro, Y. (1997). *The Child and Adolescent Perfectionism Scale: Development, validation and association with adjustment. Unpublished manuscript.*

Fox-Wasylyshyn, S.M., & El-Masri, M, M. (2005). Handling missing data in self-report measures. *Research in Nursing & Health*, 28, 488–495.

Froh, J.J., Kashden, T.B., Yurkewicz, C., Fan, J., Allan, J. & Glowacki, J. (2010). The benefits of passion and absorption in activities: Engaged living in adolescents and its role in psychological well-being. *The Journal of Positive Psychology*, 5, 311–332.

Garber, J. (2010). Vulnerability to depression in childhood and adolescence. In R.Ingram & J.Price (Ed.), *Vulnerability to psychopathology: Risk across the lifespan* (2nd ed., pp. 189–247). New York: Guilford Press.

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.)* (4th ed.). Boston: Allyn & Bacon.

Gilbert, P. (1989). *Human nature and suffering*. Hove: Lawrence Erlbaum Associates.

Gilbert, P. (2005). Compassion and cruelty: a biopsychosocial approach. In *Compassion: Conceptualisations, research and use in psychotherapy* (pp. 9–74). London: Routledge.

Gilbert, P. (2009). *The compassionate mind*. London: Constable.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor

structure. *Psychological Assessment*, 4(1), 26–42.

Hale, W. W, III, Raaijmakers, Q. A., Muris, P., Van Hoof, A., & Meeus, W. H. J. (2008). Developmental trajectories of adolescent anxiety disorder symptoms: A 5-year prospective community study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 556–564.

<http://doi.org/10.1097/CHI.0b013e3181676583>

Hammen, C. (2009). Children of depressed parents. In H. Gotlib & C. Hammen (Ed.), *Handbook of depression* (2nd ed., pp. 275–297). New York: Guilford Press.

Harter, S. (1998). The development of self-representations. In W. Damon & N. Eisenberg (Ed.), *Handbook of Child Psychology* (pp. 553–617). New York: Wiley.

Harter, S. (1999). *The construction of the self: a developmental perspective*. New York: Guilford Press.

Heeren, A., & Philippot, P. (2011). Changes in ruminative thinking mediate the clinical benefits of mindfulness: Preliminary findings. *Mindfulness*, 2(1), 8–13. <http://doi.org/10.1007/s12671-010-0037-y>

Heffernan, M.Q., Quinn, G.M.T., McNulty, S.R., & Fitzpatrick, J. J. (2010). Self-compassion and emotional intelligence in nurses. *International Journal of Nursing Practice*, 16, 128–140.

Hewitt, P.L., Flett, G.L., Besser, A., Sherry, S.B., & McGee, B. (2002). Perfectionism is multidimensional: a reply to Shafran, Cooper and Fairburn (2002). *Behaviour Research and Therapy*, 41, 1221–1236.

[http://doi.org/10.1016/s0005-7967\(03\)00021-4](http://doi.org/10.1016/s0005-7967(03)00021-4)

- Hewitt, P.L., Caelian, C.F., Flett, G.L., Sherry, S.B., Collins, L.A., & Flynn, C. A. (2002). Perfectionism in children: associations with depression, anxiety and anger. *Personality and Individual Differences*, 32, 1049–1061.
- Hewitt, P. L., Flett, G. L., & Ediger, E. (1996). Perfectionism and depression: longitudinal assessment of a specific vulnerability hypothesis. *Journal of Abnormal Psychology*, 105(2), 276–280. <http://doi.org/10.1037/0021-843X.105.2.276>
- Hinterman, C., Burns, L., Hopwood, D., & Rogers, W. (2012). Mindfulness: Seeking a more perfect approach to coping with life’s challenges. *Mindfulness*, 3(4), 275–281.
- Huggins, L., Davis, M. C., Rooney, R., & Kane, R. (2008). Socially prescribed and self-oriented perfectionism as predictors of depressive diagnosis in preadolescents. *Australian Journal of Guidance and Counselling*, 18, 182–194.
- Ingram, R.E., & Price, J. M. (2001). The role of vulnerability in understanding psychopathology. In R.E. Ingram & J.M. Price (Ed.), *Vulnerability to psychopathology: Risk across the lifespan* (pp. 3–20). New York: Guilford Press.
- James, K., Verplanken, B., & Rimes, K, A. (2015). Self-criticism as a mediator in the relationship between unhealthy perfectionism and distress. *Personality and Individual Differences*, 79, 123–128. <http://doi.org/10.1016/j.paid.2015.01.030>
- Johnson, E.A., & Nozick, K. J. (2011). Personality, Adjustment, and Identity Style Influences on Stability in Identity and Self-Concept During the Transition to University. *Identity*, 11(1), 25–46.

<http://doi.org/10.1080/15283488.2011.540737>

- Keyes, C.L.M., Dhingra, S.S., Simoes, E. J. (2010). Change in level of positive mental health as a predictor of future risk of mental illness. *American Journal of Public Health, 100*, 2366–2371.
- Kinderman, P., Schwannauer, M., Pontin, E., & Tai, S. (2011). The development and validation of a general measure of well-being: The BBC well-being scale. *Quality of Life Research, 20*, 1035–1042. <http://doi.org/10.1007/s11136-010-9841-z>
- Körner, A., Coroiu, A., Copeland, L., Gomez-Garibello, L., Albani, C., Zenger, M. and Brahler, E. (2015). The Role of Self-Compassion in Buffering Symptoms of Depression in the General Population. *PLoS ONE, October 2*, 1–14. <http://doi.org/10.1371/journal.pone.0136598>
- Lapsley DK, FitzGerald DP, Rice KG, J. S. (1989). Separation, individuation, and the “new look” in the imaginary audience and personal fable. *Journal of Adolescent Research, 4*(4), 483–505.
- Leary, M.R., Tate, E.B., Adams, C.E., Batts, A.A.B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*, 887–904.
- Luyckx, K., Soenens, B., Goossens, L., Beckx, K., & Wouters, S. (2008). Identity exploration and commitment in late adolescence: Correlates of perfectionism and mediating mechanisms on the pathway to well-being. *Journal of Social and Clinical Psychology, 27*, 336–361.
- Lyubomirsky, S., & Nolen-Hoeksema, S. (1995). Effects of self-focused

- rumination on negative thinking and interpersonal problem solving. *Journal of Personality and Social Psychology*, 69, 176–190. <http://doi.org/10.1037/0022-3514.69.1.176>
- MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review*, 32, 545–552.
- Marshall, S. L., Parker, P. D., Ciarrochi, J., Sahdra, B., Jackson, C. J., & Heaven, P. C. (2015). Self-compassion protects against the negative effects of low self-esteem: A longitudinal study in a large adolescent sample. *Personality and Individual Differences*, 74, 116–121.
- McCreary, B. T., Joiner, T. E., Schmidt, N. B., & Ialongo, N. S. (2004). The structure and correlates of perfectionism in African American children. *Journal of Clinical Child and Adolescent Psychology*, 33, 313–324.
- McCubbin, H.I., Thompson, A., & McCubbin, M. A. (2001). *Family measures: Stress, coping and resiliency - Inventories for research and practice*. Honolulu: Kamechamecha Schools.
- Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. *Psychological Bulletin*, 105, 156–166. <http://doi.org/10.1037/0033-2909.105.1.156>
- Montero-Marin, J., Gaete, J., Demarzo, M., Rodero, B., Lopez, L, S., & Garcia-Campayo, J. (2016). Self-Criticism: A Measure of Uncompassionate Behaviors Toward the Self, Based on the Negative Components of the Self-Compassion Scale. *Frontiers in Psychology*, 7, 1–15. <http://doi.org/10.3389/fpsyg.2016.01281>

- Morris, L., & Lomax, C. (2014). Assessment, development, and treatment of childhood perfectionism: a systematic review. *Child and Adolescent Mental Health, 19*, 225–234. <http://doi.org/10.1111/camh.12067>
- Neff, K. D., Whitaker, T. A., & Karl, A. (2017). *Examining the factor structure of the Self-Compassion Scale in four distinct populations: Is the use of a total scale score justified? (In press). Journal of Personality Assessment.*
- Neff, K.D., Rude, S.S., & Dejitthirat, K. (2005). Self-compassion, achievement goals and coping with academic failure. *Self and Identity, 4*, 263–287.
- Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*, 223–250.
<http://doi.org/10.1080/15298860390209035>
- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality, 41*, 139–154. <http://doi.org/10.1016/j.jrp.2006.03.004>
- Neff, K. D., & McGehee, P. (2010). Self-compassion and Psychological Resilience Among Adolescents and Young Adults. *Self and Identity, 9*(June 2009), 225–240. <http://doi.org/10.1080/15298860902979307>
- O'Connor, R.C., Fraser, L., Whyte, M.C., MacHale, S., & Masterton, G. (2009). Self-regulation of unattainable goals in suicide attempters: the relationship between goal disengagement, goal reengagement and suicidal ideation. *Behavior Research and Therapy, 47*, 164–169.
- O'Connor, R. C., Dixon, D., & Rasmussen, S. (2009). The structure and temporal stability of the Child and Adolescent Perfectionism Scale. *Psychological Assessment, 21*(3), 437–443. <http://doi.org/10.1037/a0016264>

- O'Connor, R. C., Rasmussen, S., & Hawton, K. (2010). Predicting depression, anxiety and self-harm in adolescents: The role of perfectionism and acute life stress. *Behaviour Research and Therapy*, 48(1), 52–59.
<http://doi.org/10.1016/j.brat.2009.09.008>
- Patterson, J.M., & McCubbin, H. I. (1987). Adolescent coping style and behaviors: conceptualisation and measurement. *Journal of Adolescence*, 10, 163–186.
- Raes, P. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, 48, 757–761.
- Rasmussen, K.E. & Troilo, S. (2016). “It Has to be Perfect!”: The Development of Perfectionism and the Family System. *Journal of Family Theory and Review*, 8, 154–172.
- Raymond, M. R. (1986). Missing data in evaluation research. *Evaluation and the Health Professions*, 9, 395–420.
- Rice, K. G., & Dellwo, J. P. (. (2001). Within semester stability and adjustment correlates of the Multidimensional Perfectionism Scale. *Measurement and Evaluation in Counseling and Development*, 34, 147–156.
- Rice, K.G., & Mirzadeh, S. . (2000). Perfectionism, attachment, and adjustment. *Journal of Counseling Psychology*, 47, 238–250.
- Rimes, K. A., & Chalder, T. (2010). The Beliefs about Emotions Scale: Validity, reliability and sensitivity to change. *Journal of Psychosomatic Research*, 68(3), 285–292. <http://doi.org/10.1016/j.jpsychores.2009.09.014>
- Rosenberg, M. (1986). Self-concept from middle childhood through adolescence. In J.Suls & A.G.Greenwald. (Ed.), *Psychological perspectives on the self* (pp.

107–135). Hillsdale, NJ: Lawrence Erlbaum Associates.

Roth, P.L., Switzer, F.S., & Switzer, D. M. (1999). Missing data in multiple item scale: A monte carlo analysis of missing data techniques. *Organizational Research Methods*, 2, 211–212.

Rubin, K. H., & Coplan, R. J. (2004). Paying attention to and not neglecting social withdrawal and social isolation. *Merrill-Palmer Quarterly Journal*, 50, 506–534. <http://doi.org/10.1353/mpq.2004.0036>

Ryff, C. D. (1989). Happiness Is Everything, or Is It? Explorations on the Meaning of Psychological Well-Being. *Journal of Personality and Social Psychology*, 57(6), 1069–1081.

Samaie, G.H., & Farahani, H. A. (2011). Self-compassion as a moderator of the relationship between rumination, self-reflection and stress. *Social and Behavioral Sciences*, 30, 978–982.

<http://doi.org/10.1016/j.sbspro.2011.10.190>

Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.

Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive-behavioural analysis. *Behaviour Research and Therapy*, 40(7), 773–791. [http://doi.org/10.1016/S0005-7967\(01\)00059-6](http://doi.org/10.1016/S0005-7967(01)00059-6)

Shirk, S.R., & Renouf, A. G. (1992). The tasks of self-development in middle childhood and early adolescence. In R.P. Lipka & T.M. Brinthaupt (Ed.), *Self-perspectives across the lifespan* (pp. 53–90). Albany: NY: State University of New York Press.

- Short, M. M., & Mazmanian, D. (2013). Perfectionism and negative repetitive thoughts: Examining a multiple mediator model in relation to mindfulness. *Personality and Individual Differences*, 55(6), 716–721.
- Sink, C. a., Stroh, H. R., Ph, D., & Ed, D. (2006). Practical significance: The use of effect sizes in school counseling research. *Professional School Counseling*, 9(5), 401–411. <http://doi.org/Article>
- Soreni, N., Streiner, D., McCabe, R., Bullard, C., Swinson, R., Greco, A., Pires, P., & Szatmari, P. (2014). Dimensions of Perfectionism in Children and Adolescents with Obsessive-compulsive Disorder. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 23(2), 136–143.
- Southall, D., & Roberts, J. E. (2002). Attributional style and self-esteem in vulnerability to adolescent depressive symptoms followin life stress: a 14-week prospective study. *Cognitive Therapy and Research*, 26, 533–579.
- Steele, A. L., Waite, S., Egan, S. J., Finnigan, J., Handley, A., & Wade, T. D. (2013). Psycho-Education and Group Cognitive-Behavioural Therapy for Clinical Perfectionism: A Case-Series Evaluation. *Behavioural and Cognitive Psychotherapy*, 41(2), 129–143.
- Studenmund, A.H., & Cassidy, H. J. (1987). *Using economics: A pratical guide*. Boston: Little, Brown.
- Sub, A., & Prabha, C. (2003). Academic performance in relation to perfectionism, test procrastination and test anxiety of high school children. *Psychological Studies*, 48, 77–81.
- Tabachnick, B.G., & Fidell, L. S. (2001). *Using multivariate statistics (4th Edition)*. Boston: Allyn & Bacon.

- Toombs, S. K. (1994). Disability and the self. In T.M. Brinthaupt & R.P. Lipka (Ed.), *Changing the self: Philosophies, techniques and experiences*. (pp. 337–357). Albany: NY: State University of New York Press.
- White, D., Leach, C., Sims, R., & Cottrell, D. (1999). Validation of the Hospital Anxiety and Depression Scale for use with adolescents. *British Journal of Psychiatry*, 175(5), 452–454.
- WHOQOL Group. (1998). The world health organisation quality of life assessment (WHOQOL): Development and general psychometric properties. *Social Scientific Medicine*, 46(12), 1569–1585.
- Wilcox, R, R. (1998). A note on the Theil-Sen estimator when the regression is random and the error term is heteroscedastic. *Biometric Journal*, 40(3), 261–268.
- Williams, M, J., Dalgleigh, T., Karl, A., & Kuyken, W. (2014). Examining the factor structures of the Five Facet Mindfulness Questionnaire and the Self-Compassion Scale. *Psychological Assessment*, 26(2), 407–418.
- Wong, C, C, Y., & Mak, W, W, S. (2013). Differentiating the Role of Three Self-Compassion Components in Buffering Cognitive-Personality Vulnerability to Depression Among Chinese in Hong Kong. *Journal of Counseling Psychology*, 60(1), 162–169. <http://doi.org/10.1037/a0030451>
- Wright, D., London, K., & Field, A, P. (2011). Using bootstrap estimation and the plug-in principle for clinical psychology data. *Journal of Experimental Psychopathology*, 2(2), 252–270. <http://doi.org/10.5127/jep.013611>
- Yarnell, L,M., & Neff, K, D. (2013). Self-compassion, interpersonal conflict resolutions, and well-being. *Self and Identity*, 12, 146–159.

- Zeller, M., Yuval, K., Nitzan-Assayag, Y., & Bernstein, A. (2014). Self-compassion in recovery following potentially traumatic stress: Longitudinal study of at-risk youth. *Journal of Abnormal Child Psychiatry*, 43(4), 645–653. <http://doi.org/10.1007/s10802-014-9937-y>
- Zigmond, A.S & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatr Scand*, 67, 361–370.
- Zuroff, D. C., Igreja, I., and Mongrain, M. (1990). Dysfunctional attitudes, dependency, and self-criticism as predictors of depressive mood states: a 12-month longitudinal study. *Cognitive Therapy and Research*, 14, 315–326.

References across whole thesis

- Adler, P.A., & Adler, P. (1998). *Peer power: preadolescent culture and identity*. New Brunswick: NJ: Rutgers University Press.
- Afshar, H., Roohafza, H., Sadeghi, M., Saadaty, A., Selehi, M., Motamedi, M., Matinpour, M., Isfahani, N.H., Asadollahi, G. (2011). Positive and negative perfectionism and their relationship with anxiety and depression in Iranian school students. *Journal of Research in Medical Sciences*, 16(1), 79–86.
- Antony, M.M., & Swinson, R. P. (1998). *When perfect isn't good enough: strategies for coping with perfectionism*. Oakland, CA: New Harbinger Publications.
- Arale, K. M. (2010). The connection between perfectionism and depression, anxiety, and anger with consideration of ethnicity. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 70(7-B), 4474. Retrieved from http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqdiss&rft_dat=xri:pqdiss:3365690%5Cnhttp://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc7&NEWS=N&AN=2010-99020-294
- Argus, G., & Thompson, M. (2008). Perceived social problem solving, perfectionism, and mindful awareness in clinical depression: An exploratory study. *Cognitive Therapy and Research*, 32(6), 745–757. <http://doi.org/10.1007/s10608-006-9102-1>
- Baer, R.A., Lykins, E.L.B., & Peters, J. R. (2012). Mindfulness and self-

compassion as predictors of psychological well-being in long-term mediators and matched nonmediators. *The Journal of Positive Psychology*, 7, 230–238. <http://doi.org/10.1080/17439760.2012.674548>

Barry, C. T., Loflin, D. C., & Doucette, H. (2015). Adolescent selfcompassion: Associations with narcissism, self-esteem, aggression, and internalizing symptoms in at-risk males. *Personality and Individual Differences*, 77, 118–123.

Benson, E. (2003, November). The many faces of perfectionism. *American Psychological Association*, 18. Retrieved from <http://www.apa.org/monitor/nov03/manyfaces.aspx>

Bjelland, I., Bjelland, I., Dahl, A. a, Dahl, A. a, Haug, T. T., Haug, T. T., ... Neckelmann, D. (2002). The validity of the Hospital Anxiety and Depression Scale: an updated literature review. *Journal of Psychosomatic Research*, 52, 69–77. [http://doi.org/10.1016/S0022-3999\(01\)00296-3](http://doi.org/10.1016/S0022-3999(01)00296-3)

Bluth, K., & Blanton, P, W. (2015). The influence of self-compassion on emotional well-being among early and older adolescent males and females. *Journal of Positive Psychology*, 13(3), 219–230. <http://doi.org/10.1080/17439760.2014.936967>

Bluth, K., Robertson, P, N, E., Gaylord, S, A., Faurot, K, R., Grewen, K, M., Arzon, S., & Girdler, S, S. (2015). Does self-compassion protect adolescents from stress? *Journal of Child and Family Studies*, October. <http://doi.org/10.1007/s10826-015-0307-3>

Bousman, L. (2007). The Fine Line of Perfectionism: Is It a Strength or a Weakness in the Workplace? *Theses, Dissertations, and Student Research*:

Department of Psychology (University of Nebraska), Paper 4. Retrieved from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1003&context=psychdiss>

- Brinthaupt, T.M., & Lipka, R. P. (2002). *Understanding early adolescent self and identity: Applications and interventions*. Albany: NY: State University of New York Press.
- Burns, D. D. (1980). The perfectionists's script for self-defeat. *Psychology Today*, (November), 34–52.
- Carr, A. (2006). *The handbook of child and adolescent clinical psychology* (2nd ed.). East Sussex: Routledge.
- Castro, J, R., & Rice, K, G. (2003). Perfectionism and ethnicity: Implications for depressive symptoms and self-reported academic achievement. *Cultural Diversity and Ethnic Minority Psychology*, 19(1), 64–78. <http://doi.org/10.1037/1099-9809.9.1.64>
- Chorpita, B.F., Tracey S.A., Brown, T.A., Collica, T.J., & Barlow, D. H. (1997). Assessment of worry in children and adolescents: An adaptation of the Penn State Worry Questionnaire. *Behavior Research and Therapy*, 35, 569–581.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences (2nd Edition)*. Hillsdale, NJ: Erlbaum.
- Damian, L.E., Negru-Subtirica, O., Stroeber, J., & Baban, A. (n.d.). Perfectionistic Concerns Predict Increases in Adolescents' Anxiety Symptoms: A Three-Wave Longitudinal Study (in press). *Anxiety, Stress, and Coping*.
- Demo, D.H., & Savin-Williams, R. C. (1992). Self-concept stability and change during adolescence. In R.P. Lipka & T.M. Brinthaupt (Ed.), *Self-perspectives*

across the lifespan (pp. 116–148). Albany: NY: State University of New York Press.

Dibartolo, P.M., & Varner, S. P. (2012). How a children's cognitive and affective responses to a novel task relate to the dimensions of perfectionism. *Journal of Rational-Emotive & Cognitive Behavior Therapy*, 30, 62–76. <http://doi.org/10.1007/s10942-011-0130-8>

Downey, R.G., & King, C. V. (1998). Missing data in likert ratings: A comparison of replacement methods. *Journal of General Psychology*, 125, 175–191.

Dunkley, D.M., Blankstein, K.R., Masheb, R.M., & Grilo, C. M. (2006). Personal standards and evaluative concerns dimensions of “clinical” perfectionism: A reply to Shafran et al. (2002, 2003) and Hewitt et al. (2003). *Behavior Research and Therapy*, 44, 63–84. <http://doi.org/10.1016/j.brat.2004.12.004>

Dunkley, D.M., & Blankstein, K. R. (2000). Self-critical perfectionism, coping, and current distress: A Structural equation modeling approach. *Cognitive Therapy and Research*, 24, 713–730.

Efron, B., & Tibshirani, R. (1993). *An introduction to the Bootstrap*. Boca Raton; FL: Chapman & Hall.

Egan, S. J., Wade, T. D., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: A clinical review. *Clinical Psychology Review*, 31, 203–212. <http://doi.org/10.1016/j.cpr.2010.04.009>

Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, 38(4), 1025–1034.

Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W.W. Norton.

Essau, C.A., Leung, P.W.L., Conradt, J., Cheng, H., & Wong, T. (2008). Anxiety

symptoms in Chinese and German adolescents: their relationship with early learning experiences, perfectionism and learning motivation. *Depression and Anxiety*, 25, 801–810.

Essau, C. A., Leung, P. W. L., Conradt, J., Cheng, H., & Wong, T. (2008). Anxiety symptoms in chinese and german adolescents: Their relationship with early learning experiences, perfectionism, and learning motivation. *Depression and Anxiety*, 25(9), 801–810. <http://doi.org/10.1002/da.20334>

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <http://doi.org/10.3758/BRM.41.4.1149>

Field, A. (2013). *Discovering statistics using IBM SPSS statistics (4th Edition)* (Fourth). London: Sage Publications.

Flett, G.L., Coulter, L.M., Hewitt, P.L., Nepon, T. (2011). Perfectionism, rumination, worry, and depressive symptoms in early adolescents. *Canadian Journal of School Psychology*, 26(3), 159–176.

Flett, G.L., Hewitt, P.L., Blankstein, K.R., & Mosher, S. W. (1995). Perfectionism, life events and depressive symptoms: a test of a diathesis-stress model. *Current Psychology: Developmental, Learning, Personality, Social.*, 14(2), 112–137.

Flett, G. L., Hewitt, P. L., Boucher, D. J., Davidson, L. A., & Munro, Y. (2000). The Child and Adolescent Perfectionism Scale: Development, validation, and association with adjustment. *Unpublished Manuscript*.

Flett, G.L., & Hewitt, P. . (2014). A proposed framework for preventing

perfectionism and promoting resilience and mental health among vulnerable children and adolescents. *Psychology in the Schools*, 51, 899–918.
<http://doi.org/10.1002/pits.21792>

Flett, G.L., & Hewitt, P. L. (2001). *Perfectionism: Theory and Research*. Washington, DC: American Psychological Association.

Flett, G.L., & Hewitt, P. L. (2002). *Perfectionism: Theory, research and treatment*. Washington, DC: American Psychological Association.

Flett, G.L., & Hewitt, P. L. (2012). Perfectionism and cognitive factors in distress and dysfunction in children and adolescents: Introduction to the special issue. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 30, 53–61.

Flett, G.L., Hewitt, P.L., Besser, A., Chang, S., Vaillancourt, T., Boucher, D., Munro, Y., Davidson, L.A., & Gale, O. (2016). The Child–Adolescent Perfectionism Scale: Development, Psychometric Properties, and Associations With Stress, Distress, and Psychiatric Symptoms. *Journal of Psychoeducational Assessment*, 34(7), 634–652.
<http://doi.org/10.1177/0734282916651381>

Flett, G.L., Hewitt, P.L., Blankstein, K.R., & Mosher, S. W. (1995). Perfectionism, life events and depressive symptoms: a test of a diathesis-stress model. *Current Psychology: Developmental, Learning, Personality, Social.*, 14(2), 112–137.

Flett, P.L., Hewitt, P.L., Boucher D.J., Davidson, L.A., & Munro, Y. (1997). *The Child and Adolescent Perfectionism Scale: Development, validation and association with adjustment*. Unpublished manuscript.

Fox-Wasylyshyn, S.M., & El-Masri, M, M. (2005). Handling missing data in self-

- report measures. *Research in Nursing & Health*, 28, 488–495.
- Froh, J.J., Kashden, T.B., Yurkewicz, C., Fan, J., Allan, J. & Glowacki, J. (2010). The benefits of passion and absorption in activities: Engaged living in adolescents and its role in psychological well-being. *The Journal of Positive Psychology*, 5, 311–332.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Theory and Research*, 14, 449–468.
- Garber, J. (2010). Vulnerability to depression in childhood and adolescence. In R.Ingram & J.Price (Ed.), *Vulnerability to psychopathology: Risk across the lifespan* (2nd ed., pp. 189–247). New York: Guilford Press.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.)* (4th ed.). Boston: Allyn & Bacon.
- GhorbanDordinejad, F., & Nasab, A,H, F. (2013). Examination of the relationship between perfectionism and English achievement as mediated by foreign language classroom anxiety. *Assia Pacific Educational Review*, 14, 603–614. <http://doi.org/10.1007/s12564-013-9286-5>
- Gilbert, P. (1989). *Human nature and suffering*. Hove: Lawrence Erlbaum Associates.
- Gilbert, P. (2005). Compassion and cruelty: a biopsychosocial approach. In *Compassion: Conceptualisations, research and use in psychotherapy* (pp. 9–74). London: Routledge.
- Gilbert, P. (2009). *The compassionate mind*. London: Constable.
- Glasgow RE, Klesges LM, Dzewaltowski DA, Bull SS, E. P. (2004). The future of health behavior change research: what is needed to improve translation of

- research into health promotion practice? *Annals of Behavioral Medicine*, 27, 3–12.
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, 4(1), 26–42.
- Greenberger, E., Chen, C., Tally, S. R., & Dong, Q. (2000). Family, peer, and individual correlates of depressive symptomatology among U.S. and Chinese adolescents. *Journal of Consulting and Clinical Psychology*, 68(2), 209–219.
- Guignard, J-H., Jacquet, A-Y., & Lubart, T, I. (2012). Perfectionism and anxiety: A paradox in intellectual giftedness? *PLoS ONE*, 7(7), 1–6.
<http://doi.org/10.1371/journal.pone.0041043>
- Hale, W. W, III, Raaijmakers, Q. A., Muris, P., Van Hoof, A., & Meeus, W. H. J. (2008). Developmental trajectories of adolescent anxiety disorder symptoms: A 5-year prospective community study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 556–564.
<http://doi.org/10.1097/CHI.0b013e3181676583>
- Hamachek, D. E. (1978). Psychodynamics of Hamachek, D. E. (1978). Psychodynamics of normal and neurotic perfectionism. *Psychology Today*, 15, 27–33. normal and neurotic perfectionism. *Psychology Today*, 15, 27–33.
- Hammen, C. (2009). Children of depressed parents. In H. Gotlib & C. Hammen (Ed.), *Handbook of depression* (2nd ed., pp. 275–297). New York: Guilford Press.
- Harter, S. (1998). The development of self-representations. In W. Damon & N. Eisenberg (Ed.), *Handbook of Child Psychology* (pp. 553–617). New York: Wiley.

- Harter, S. (1999). *The construction of the self: a developmental perspective*. New York: Guilford Press.
- Haynes, B. (2006). Forming research questions. *Journal of Clinical Epidemiology*, 59, 881–886.
- Heeren, A., & Philippot, P. (2011). Changes in ruminative thinking mediate the clinical benefits of mindfulness: Preliminary findings. *Mindfulness*, 2(1), 8–13. <http://doi.org/10.1007/s12671-010-0037-y>
- Heffernan, M.Q., Quinn, G.M.T., McNulty, S.R., & Fitzpatrick, J. J. (2010). Self-compassion and emotional intelligence in nurses. *International Journal of Nursing Practice*, 16, 128–140.
- Hewitt, P.L., Flett, G.L., Besser, A., Sherry, S.B., & McGee, B. (2002). Perfectionism is multidimensional: a reply to Shafran, Cooper and Fairburn (2002). *Behaviour Research and Therapy*, 41, 1221–1236. [http://doi.org/10.1016/s0005-7967\(03\)00021-4](http://doi.org/10.1016/s0005-7967(03)00021-4)
- Hewitt, P.L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: conceptualisation, assessment and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456–470.
- Hewitt, P.L., & Flett, G. L. (2001). Perfectionism and stress enhancement, perpetuation, anticipation and generation in psychopathology. In G.L. Flett & P.L. Hewitt (Ed.), *Perfectionism: Theory, research, and treatment*. Washington, DC: American Psychological Association.
- Hewitt, P.L., Caelian, C.F., Flett, G.L., Sherry, S.B., Collins, L.A., & Flynn, C. A. (2002). Perfectionism in children: associations with depression, anxiety and anger. *Personality and Individual Differences*, 32, 1049–1061.

- Hewitt, P. L., Flett, G. L., & Ediger, E. (1996). Perfectionism and depression: longitudinal assessment of a specific vulnerability hypothesis. *Journal of Abnormal Psychology, 105*(2), 276–280. <http://doi.org/10.1037/0021-843X.105.2.276>
- Higgins, J. & Green, S. (2008). *Cochrane Handbook for Systematic Reviews of Interventions*. Chichester: Wiley & Sons and Cochrane Collaboration.
- Hinterman, C., Burns, L., Hopwood, D., & Rogers, W. (2012). Mindfulness: Seeking a more perfect approach to coping with life's challenges. *Mindfulness, 3*(4), 275–281.
- Horwitz, E.K., Horwitz, M.B., & Cope, J. (1986). Foreign Language Anxiety. *The Modern Language Journal, 70*, 114–124.
- Huggins, L., Davis, M. C., Rooney, R., & Kane, R. (2008). Socially prescribed and self-oriented perfectionism as predictors of depressive diagnosis in preadolescents. *Australian Journal of Guidance and Counselling, 18*, 182–194.
- Ingram, R.E., & Price, J. M. (2001). The role of vulnerability in understanding psychopathology. In R.E. Ingram & J.M. Price (Ed.), *Vulnerability to psychopathology: Risk across the lifespan* (pp. 3–20). New York: Guilford Press.
- James, K., Verplanken, B., & Rimes, K. A. (2015). Self-criticism as a mediator in the relationship between unhealthy perfectionism and distress. *Personality and Individual Differences, 79*, 123–128. <http://doi.org/10.1016/j.paid.2015.01.030>
- Johnson, E.A., & Nozick, K. J. (2011). Personality, Adjustment, and Identity Style Influences on Stability in Identity and Self-Concept During the Transition to

<http://doi.org/10.1080/15283488.2011.540737>

- Kanner, A.D., Feldman, S.S., Weinberger, D.A., & Ford, M. E. (1987). Uplifts, hassles and adaptational outcomes in early adolescents. *Journal of Early Adolescence*, 7, 371–394.
- Keyes, C.L.M., Dhingra, S.S., Simoes, E, J. (2010). Change in level of positive mental health as a predictor of future risk of mental illness. *American Journal of Public Health*, 100, 2366–2371.
- Kinderman, P., Schwannauer, M., Pontin, E., & Tai, S. (2011). The development and validation of a general measure of well-being: The BBC well-being scale. *Quality of Life Research*, 20, 1035–1042. <http://doi.org/10.1007/s11136-010-9841-z>
- Konchanska, G. (1993). Towards a synthesis of parental socialization and child temperament in the early development of conscience. *Child Development*, 64, 325–347.
- Körner, A., Coroiu, A., Copeland, L., Gomez-Garibello, L., Albani, C., Zenger, M. and Brahler, E. (2015). The Role of Self-Compassion in Buffering Symptoms of Depression in the General Population. *PLoS ONE*, October 2, 1–14. <http://doi.org/10.1371/journal.pone.0136598>
- Krasnow, M.S., Mainwaring, L., & Kerr, G. (1999). Injury, stress and perfectionism in young dancers and gymnasts. *Journal of Dance Medicine & Science*, 3(2), 51–58.
- Lapsley DK, FitzGerald DP, Rice KG, J. S. (1989). Separation, individuation, and the “new look” in the imaginary audience and personal fable. *Journal of*

Adolescent Research, 4(4), 483–505.

- Leary, M.R., Tate, E.B., Adams, C.E., Batts, A.A.B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, 92, 887–904.
- Lo, A., & Abbott, M. J. (2013). Review of the theoretical, empirical, and clinical status of adaptive and maladaptive perfectionism. *Behaviour Change*, 30, 96–116. <http://doi.org/10.1017/bec.2013.9>
- Luyckx, K., Soenens, B., Goossens, L., Beckx, K., & Wouters, S. (2008). Identity exploration and commitment in late adolescence: Correlates of perfectionism and mediating mechanisms on the pathway to well-being. *Journal of Social and Clinical Psychology*, 27, 336–361.
- Lyubomirsky, S., & Nolen-Hoeksema, S. (1995). Effects of self-focused rumination on negative thinking and interpersonal problem solving. *Journal of Personality and Social Psychology*, 69, 176–190. <http://doi.org/10.1037/0022-3514.69.1.176>
- MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review*, 32, 545–552.
- Marshall, S. L., Parker, P. D., Ciarrochi, J., Sahdra, B., Jackson, C. J., & Heaven, P. C. (2015). Self-compassion protects against the negative effects of low self-esteem: A longitudinal study in a large adolescent sample. *Personality and Individual Differences*, 74, 116–121.
- McCreary, B. T., Joiner, T. E., Schmidt, N. B., & Ialongo, N. S. (2004). The

- structure and correlates of perfectionism in African American children. *Journal of Clinical Child and Adolescent Psychology*, 33, 313–324.
- McCubbin, H.I., Thompson, A., & McCubbin, M. A. (2001). *Family measures: Stress, coping and resiliency - Inventories for research and practice*. Honolulu: Kamechamecha Schools.
- Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. *Psychological Bulletin*, 105, 156–166. <http://doi.org/10.1037/0033-2909.105.1.156>
- Montero-Marin, J., Gaete, J., Demarzo, M., Rodero, B., Lopez, L, S., & Garcia-Campayo, J. (2016). Self-Criticism: A Measure of Uncompassionate Behaviors Toward the Self, Based on the Negative Components of the Self-Compassion Scale. *Frontiers in Psychology*, 7, 1–15. <http://doi.org/10.3389/fpsyg.2016.01281>
- Morris, L., & Lomax, C. (2014). Assessment, development, and treatment of childhood perfectionism: a systematic review. *Child and Adolescent Mental Health*, 19, 225–234. <http://doi.org/10.1111/camh.12067>
- Neff, K, D., Whitaker, T, A., & Karl, A. (2017). *Examining the factor structure of the Self-Compassion Scale in four distinct populations: Is the use of a total scale score justified? (In press)*. *Journal of Personality Assessment*.
- Neff, K,D., Rude, S,S., & Dejitthirat, K. (2005). Self-compassion, achievement goals and coping with academic failure. *Self and Identity*, 4, 263–287.
- Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2, 223–250. <http://doi.org/10.1080/15298860390209035>

- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality*, 41, 139–154. <http://doi.org/10.1016/j.jrp.2006.03.004>
- Neff, K. D., & McGehee, P. (2010). Self-compassion and Psychological Resilience Among Adolescents and Young Adults. *Self and Identity*, 9(June 2009), 225–240. <http://doi.org/10.1080/15298860902979307>
- Neumeister, K. L. S., & Finch, H. (2006). Perfectionism in high-ability students: Relational precursors and influences on achievement motivation. *The Gifted Child Quarterly*, 50(3), 238–251.
- Nice. (2012). Methods for the development of NICE public health guidance (third edition), (September), 284. Retrieved from <https://www.nice.org.uk/process/pmg4/resources/methods-for-the-development-of-nice-public-health-guidance-third-edition-pdf-2007967445701>
- O'Connor, R. C., Fraser, L., Whyte, M.C., MacHale, S., & Masterton, G. (2009). Self-regulation of unattainable goals in suicide attempters: the relationship between goal disengagement, goal reengagement and suicidal ideation. *Behaviour Research and Therapy*, 47, 164–169.
- O'Connor, R.C., Fraser, L., Whyte, M.C., MacHale, S., & Masterton, G. (2009). Self-regulation of unattainable goals in suicide attempters: the relationship between goal disengagement, goal reengagement and suicidal ideation. *Behavior Research and Therapy*, 47, 164–169.
- O'Connor, R. C., Dixon, D., & Rasmussen, S. (2009). The structure and temporal stability of the Child and Adolescent Perfectionism Scale. *Psychological*

Assessment, 21(3), 437–443. <http://doi.org/10.1037/a0016264>

- O'Connor, R. C., Rasmussen, S., & Hawton, K. (2010). Predicting depression, anxiety and self-harm in adolescents: The role of perfectionism and acute life stress. *Behaviour Research and Therapy*, 48(1), 52–59. <http://doi.org/10.1016/j.brat.2009.09.008>
- Pacht, A. R. (1984). Reflections on perfection. *American Psychologist*, 39, 386–390.
- Patterson, J.M., & McCubbin, H. I. (1987). Adolescent coping style and behaviors: conceptualisation and measurement. *Journal of Adolescence*, 10, 163–186.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic Emotions in Students' Self-Regulated Learning and Achievement: A Program of Qualitative and Quantitative Research. *Educational Psychologist*, 37(2), 91–105. http://doi.org/10.1207/S15326985EP3702_4
- Petticrew, M. & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Oxford, UK: Blackwell Publishing.
- Raes, P. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, 48, 757–761.
- Rasmussen, K.E. & Troilo, S. (2016). “It Has to be Perfect!”: The Development of Perfectionism and the Family System. *Journal of Family Theory and Review*, 8, 154–172.
- Raymond, M. R. (1986). Missing data in evaluation research. *Evaluation and the Health Professions*, 9, 395–420.
- Reynolds, C.R., & Richmond, B. O. (1978). What I think and feel: a revised

- measure of children's manifest anxiety. *Journal of Abnormal Child Psychology*, (6), 271–280.
- Rice, K. G., & Dellwo, J. P. (. (2001). Within semester stability and adjustment correlates of the Multidimensional Perfectionism Scale. *Measurement and Evaluation in Counseling and Development*, 34, 147–156.
- Rice, K.G., & Mirzadeh, S. . (2000). Perfectionism, attachment, and adjustment. *Journal of Counseling Psychology*, 47, 238–250.
- Rimes, K. A., & Chalder, T. (2010). The Beliefs about Emotions Scale: Validity, reliability and sensitivity to change. *Journal of Psychosomatic Research*, 68(3), 285–292. <http://doi.org/10.1016/j.jpsychores.2009.09.014>
- Roberts, S,M., & Lovett, S, B. (1994). Examining the “F” in gifted: Academically gifted adolescents’ physiological and affective responses to scholastic failure. *Journal for the Education of the Gifted*, 17, 241–259.
- Rosenberg, M. (1986). Self-concept from middle childhood through adolescence. In J.Suls & A.G.Greenwald. (Ed.), *Psychological perspectives on the self* (pp. 107–135). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Roth, P.L., Switzer, F.S., & Switzer, D. M. (1999). Missing data in multiple item scale: A monte carlo analysis of missing data techniques. *Organizational Research Methods*, 2, 211–212.
- Rubin, K. H., & Coplan, R. J. (2004). Paying attention to and not neglecting social withdrawal and social isolation. *Merrill-Palmer Quarterly Journal*, 50, 506–534. <http://doi.org/10.1353/mpq.2004.0036>
- Ryff, C. D. (1989). Happiness Is Everything, or Is It? Explorations on the Meaning of Psychological Well-Being. *Journal of Personality and Social Psychology*,

57(6), 1069–1081.

- Samaie, G.H., & Farahani, H. A. (2011). Self-compassion as a moderator of the relationship between rumination, self-reflection and stress. *Social and Behavioral Sciences*, 30, 978–982.
<http://doi.org/10.1016/j.sbspro.2011.10.190>
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.
- Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive-behavioural analysis. *Behaviour Research and Therapy*, 40(7), 773–791. [http://doi.org/10.1016/S0005-7967\(01\)00059-6](http://doi.org/10.1016/S0005-7967(01)00059-6)
- Sharma, S., & Sud, A. (1990). Examination Stress and Test Anxiety: A cross-cultural perspective. *Psychology and Developing Societies*, 2(2), 183–201.
- Sheldrake, R. (1999). How Widely is Blind Assessment Used in Scientific Research? *Alternative Therapies*, 5(3), 88–91.
- Shirk, S.R., & Renouf, A. G. (1992). The tasks of self-development in middle childhood and early adolescence. In R.P. Lipka & T.M. Brinthaupt (Ed.), *Self-perspectives across the lifespan* (pp. 53–90). Albany: NY: State University of New York Press.
- Short, M. M., & Mazmanian, D. (2013). Perfectionism and negative repetitive thoughts: Examining a multiple mediator model in relation to mindfulness. *Personality and Individual Differences*, 55(6), 716–721.
- SIGN & NHS QIS. (2015). *Sign 50: A guideline developer's handbook*. Retrieved from <http://www.sign.ac.uk/pdf/sign50.pdf>

- Silverman, W. K., & Albano, A. M. (1996). *The Anxiety Disorders Interview Schedule for DSM-IV-Child and Parent Versions*. New York: Oxford University Press.
- Sink, C. a., Stroh, H. R., Ph, D., & Ed, D. (2006). Practical significance: The use of effect sizes in school counseling research. *Professional School Counseling*, 9(5), 401–411. <http://doi.org/Article>
- Sironic, A., & Reeve, R. A. (2015). A combined analysis of the Frost Multidimensional Perfectionism Scale (FMPS), Child and Adolescent Perfectionism Scale (CAPS), and Almost Perfect Scale–Revised (APS-R): Different perfectionist profiles in adolescent high school students. *Psychological Assessment*, 27, 1471–1483. <http://doi.org/10.1037/pas0000137>
- Slade, P, D., & Owens, R, G. (1998). A dual process model of perfectionism based on reinforcement theory. *Behavior Modification*, 22, 372–390.
- Slaney, R. B., & Ashby, J. S. (1996). Perfectionists: Study of a criterion group. *Journal of Counseling and Development : JCD*, 74(4), 393–398.
- Slaney, R.B., Rice, K.G., Mobley, M., Trippi, J., & Ashby, J. (2001). The revised almost perfect scale. *Measurement and Evaluation in Counseling and Development*, 34, 130–145.
- Soreni, N., Streiner, D., McCabe, R., Bullard, C., Swinson, R., Greco, A., Pires, P., & Szatmari, P. (2014). Dimensions of Perfectionism in Children and Adolescents with Obsessive-compulsive Disorder. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 23(2), 136–143.
- Southall, D., & Roberts, J. E. (2002). Attributional style and self-esteem in vulnerability to adolescent depressive symptoms followin life stress: a 14-

- week prospective study. *Cognitive Therapy and Research*, 26, 533–579.
- Spence, S. H. (1997). Structure of anxiety symptoms among children: A confirmatory factor-analytic study. *Journal of Abnormal Psychology*, 106, 280–297.
- Spielberger, C. D. (1980). Test anxiety inventory: Preliminary professional manual for the test anxiety (test attitude inventory) TAI. Palo Alto; CA: Consulting Psychologists Press.
- Steckler, A., & McLeroy, K. R. (2008). The Importance of External Validity. *American Journal of Public Health*, 98(1), 9–10.
<http://doi.org/10.2105/AJPH.2007.126847>
- Steele, A. L., Waite, S., Egan, S. J., Finnigan, J., Handley, A., & Wade, T. D. (2013). Psycho-Education and Group Cognitive-Behavioural Therapy for Clinical Perfectionism: A Case-Series Evaluation. *Behavioural and Cognitive Psychotherapy*, 41(2), 129–143.
- Stoeber, J. (2014). How Other-Oriented Perfectionism Differs from Self-Oriented and Socially Prescribed Perfectionism. *Journal of Psychopathology and Behavioral Assessment*, 36(2), 329–338.
- Studenmund, A.H., & Cassidy, H. J. (1987). *Using economics: A pratical guide*. Boston: Little, Brown.
- Sub, A., & Prabha, C. (2003). Academic performance in relation to perfectionism, test procrastination and test anxiety of high school children. *Psychological Studies*, 48, 77–81.
- Tabachnick, B.G., & Fidell, L. S. (2001). *Using multivariate statistics (4th Edition)*. Boston: Allyn & Bacon.

- Terry-Short, L.A., Owens, R.G., Slade, P.D., & Dewey, M. E. (1995). Positive and negative perfectionism. *Personality and Individual Differences*, 18, 663–668.
- The British Psychology Society. (2010). *Code of Human Research Ethics*. Leicester: The British Psychological Society.
- Toombs, S. K. (1994). Disability and the self. In T.M. Brinthaup & R.P. Lipka (Ed.), *Changing the self: Philosophies, techniques and experiences*. (pp. 337–357). Albany: NY: State University of New York Press.
- Tsui, J., & Mazzocco, M. M. (2006). Effects of math anxiety and perfectionism on timed versus untimed math testing in mathematically gifted sixth graders. *Roeper Review*, 29(2), 132–139. <http://doi.org/10.1080/02783190709554397>
- White, D., Leach, C., Sims, R., & Cottrell, D. (1999). Validation of the Hospital Anxiety and Depression Scale for use with adolescents. *British Journal of Psychiatry*, 175(5), 452–454.
- WHOQOL Group. (1998). The world health organisation quality of life assessment (WHOQOL): Development and general psychometric properties. *Social Scientific Medicine*, 46(12), 1569–1585.
- Wilcox, R, R. (1998). A note on the Theil-Sen estimator when the regression is random and the error term is heteroscedastic. *Biometric Journal*, 40(3), 261–268.
- Williams, M, J., Dalgleigh, T., Karl, A., & Kuyken, W. (2014). Examining the factor structures of the Five Facet Mindfulness Questionnaire and the Self-Compassion Scale. *Psychological Assessment*, 26(2), 407–418.
- Wittchen, H.U., & Essau, C. A. (1993). Mixed anxiety-depressive disorders: Is there an epidemiological evidence? *Journal of Clinical Psychiatry*, 54, 9–15.

- Wong, C, C, Y., & Mak, W, W, S. (2013). Differentiating the Role of Three Self-Compassion Components in Buffering Cognitive-Personality Vulnerability to Depression Among Chinese in Hong Kong. *Journal of Counseling Psychology*, 60(1), 162–169. <http://doi.org/10.1037/a0030451>
- Wright, D., London, K., & Field, A, P. (2011). Using bootstrap estimation and the plug-in principle for clinical psychology data. *Journal of Experimental Psychopathology*, 2(2), 252–270. <http://doi.org/10.5127/jep.013611>
- Yarnell, L.M., & Neff, K, D. (2013). Self-compassion, interpersonal conflict resolutions, and well-being. *Self and Identity*, 12, 146–159.
- Zeller, M., Yuval, K., Nitzan-Assayag, Y., & Bernstein, A. (2014). Self-compassion in recovery following potentially traumatic stress: Longitudinal study of at-risk youth. *Journal of Abnormal Child Psychiatry*, 43(4), 645–653. <http://doi.org/10.1007/s10802-014-9937-y>
- Zigmond, A.S & Snaith, R. P. (1983a). The hospital anxiety and depression scale. *Acta Psychiatr Scand*, 67(6), 361–370.
- Zigmond, A.S & Snaith, R. P. (1983b). The Hospital Anxiety and Depression Scale. *Acta Psychiatr Scand*, 67, 361–370.
- Zuroff, D. C., Igreja, I., and Mongrain, M. (1990). Dysfunctional attitudes, dependency, and self-criticism as predictors of depressive mood states: a 12-month longitudinal study. *Cognitive Therapy and Research*, 14, 315–326.

Developmental Psychology®



Other Electronic Access Options

Subscribe to PsycARTICLES on APA PsycNET® and access all APA journals online

- [Pricing and Access](#)

Editor: [Eric F. Dubow](#)

ISSN: 0012-1649

eISSN: 1939-0599

Published: monthly

Impact Factor: 3.116

Psychology - Developmental: 16 of 69

5-Year Impact Factor: 4.289

Eric F. Dubow

Editor, *Developmental Psychology*

Department of Psychology

Bowling Green State University

Bowling Green, OH 43403

General correspondence may be directed to the [Editor's Office](#).

Length

Manuscripts should be the appropriate length for the material being presented.

Manuscripts can vary from 2500–4500 words for a brief report to 10,500 words for a

larger research report to 15,000 words for a report containing multiple studies or comprehensive longitudinal studies. Editors will decide on the appropriate length and may return a manuscript for revision before reviews if they think the paper is too long. Please make manuscripts as brief as possible. We have a strong preference for shorter papers.

Facilitating Manuscript Review

In addition to email addresses, please supply mailing addresses, phone numbers, and fax numbers. Most correspondence will be handled by email. Keep a copy of the manuscript to guard against loss.

Masked Review Policy

This journal uses masked review for all submissions. Make every effort to see that the manuscript itself contains no clues to the authors' identity. The submission letter should indicate the title of the manuscript, the authors' names and institutional affiliations, and the date the manuscript is submitted.

The first page of the manuscript should omit the authors' names and affiliations but should include the title of the manuscript and the date it is submitted. Author notes, acknowledgments, and footnotes containing information pertaining to the authors' identity or affiliations may be added on acceptance.

Methodology

Description of Sample

Authors should be sure to report the procedures for sample selection and recruitment. Major demographic characteristics should be reported, such as sex, age, socioeconomic status, race/ethnicity, and, when possible and appropriate, disability status and sexual orientation. Even when such demographic characteristics are not analytic variables, they provide a more complete understanding of the sample and of the generalizability of the findings and are useful in future meta-analytic studies.

Authors should provide a justification that their sample size is appropriate beyond just citing convention in the literature. Justification could include a power analysis, a stopping rule, and/or some other type of valid justification.

Significance

For all study results, measures of both practical and statistical significance should be reported. The latter can involve either a standard error or an appropriate confidence interval. Practical significance can be reported using an effect size, a standardized regression coefficient, a factor loading, or an odds ratio.

Reliability

Manuscripts should include information regarding the establishment of interrater reliability when relevant, including the mechanisms used to establish reliability and the statistical verification of rater agreement and excluding the names of the trainers and the amount of personal contact with such individuals.

Manuscript Preparation

Prepare manuscripts according to the [Publication Manual of the American Psychological Association \(6th edition\)](#). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the *Publication Manual*).

Review APA's [Checklist for Manuscript Submission](#) before submitting your article.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the *Manual*. Additional guidance on APA Style is available on the [APA Style website](#).

Below are additional instructions regarding the preparation of display equations, computer code, and tables.

Display Equations

We strongly encourage you to use MathType (third-party software) or Equation Editor 3.0 (built into pre-2007 versions of Word) to construct your equations, rather than the equation support that is built into Word 2007 and Word 2010. Equations composed with the built-in Word 2007/Word 2010 equation support are converted to low-resolution graphics when they enter the production process and must be rekeyed by the typesetter, which may introduce errors.

To construct your equations with MathType or Equation Editor 3.0:

- Go to the Text section of the Insert tab and select Object.
- Select MathType or Equation Editor 3.0 in the drop-down menu.

If you have an equation that has already been produced using Microsoft Word 2007 or 2010 and you have access to the full version of MathType 6.5 or later, you can convert this equation to MathType by clicking on MathType Insert Equation. Copy the equation from Microsoft Word and paste it into the MathType box. Verify that your equation is correct, click File, and then click Update. Your equation has now been inserted into your Word file as a MathType Equation.

Use Equation Editor 3.0 or MathType only for equations or for formulas that cannot be produced as Word text using the Times or Symbol font.

Computer Code

Because altering computer code in any way (e.g., indents, line spacing, line breaks, page breaks) during the typesetting process could alter its meaning, we treat computer code differently from the rest of your article in our production process. To that end, we request separate files for computer code.

In Online Supplemental Material

We request that runnable source code be included as supplemental material to the article. For more information, visit [Supplementing Your Article With Online Material](#).

In the Text of the Article

If you would like to include code in the text of your published manuscript, please submit a separate file with your code exactly as you want it to appear, using Courier New font with a type size of 8 points. We will make an image of each segment of code in your article that exceeds 40 characters in length. (Shorter snippets of code that appear in text will be typeset in Courier New and run in with the rest of the text.) If an appendix contains a mix of code and explanatory text, please submit a file that contains the entire appendix, with the code keyed in 8-point Courier New.

Tables

Use Word's Insert Table function when you create tables. Using spaces or tabs in your table will create problems when the table is typeset and may result in errors.

Submitting Supplemental Materials

APA can place supplemental materials online, available via the published article in the PsycARTICLES® database. Please see [Supplementing Your Article With Online Material](#) for more details.

Abstract and Keywords

All manuscripts must include an abstract containing a maximum of 250 words typed on a separate page. After the abstract, please supply up to six keywords or brief phrases.

References

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

- **Journal Article:**
Hughes, G., Desantis, A., & Waszak, F. (2013). Mechanisms of intentional binding and sensory attenuation: The role of temporal prediction, temporal control, identity prediction, and motor prediction. *Psychological Bulletin*, 139, 133–151.
<http://dx.doi.org/10.1037/a0028566>

- **Authored Book:**
Rogers, T. T., & McClelland, J. L. (2004). *Semantic cognition: A parallel distributed processing approach*. Cambridge, MA: MIT Press.
- **Chapter in an Edited Book:**
Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing* (pp. 53–73). New York, NY: Taylor & Francis.

Figures

Graphics files are welcome if supplied as Tiff or EPS files. Multipanel figures (i.e., figures with parts labeled a, b, c, d, etc.) should be assembled into one file.

The minimum line weight for line art is 0.5 point for optimal printing.

For more information about acceptable resolutions, fonts, sizing, and other figure issues, [please see the general guidelines](#).

When possible, please place symbol legends below the figure instead of to the side.

APA offers authors the option to publish their figures online in color without the costs associated with print publication of color figures.

The same caption will appear on both the online (color) and print (black and white) versions. To ensure that the figure can be understood in both formats, authors should add alternative wording (e.g., "the red (dark gray) bars represent") as needed.

For authors who prefer their figures to be published in color both in print and online, original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay:

- \$900 for one figure
- An additional \$600 for the second figure
- An additional \$450 for each subsequent figure

Permissions

Authors of accepted papers must obtain and provide to the editor on final acceptance all necessary permissions to reproduce in print and electronic form any copyrighted work, including test materials (or portions thereof), photographs, and other graphic images (including those used as stimuli in experiments).

On advice of counsel, APA may decline to publish any image whose copyright status is unknown.

- [Download Permissions Alert Form \(PDF, 13KB\)](#)

Publication Policies

APA policy prohibits an author from submitting the same manuscript for concurrent consideration by two or more publications.

See also [APA Journals' Internet Posting Guidelines](#).

APA requires authors to reveal any possible conflict of interest in the conduct and reporting of research (e.g., financial interests in a test or procedure, funding by pharmaceutical companies for drug research).

- [Download Disclosure of Interests Form \(PDF, 38KB\)](#)
In light of changing patterns of scientific knowledge dissemination, APA requires authors to provide information on prior dissemination of the data and narrative interpretations of the data/research appearing in the manuscript (e.g., if some or all were presented at a conference or meeting, posted on a listserv, shared on a website, including academic social networks like ResearchGate, etc.). This information (2–4 sentences) must be provided as part of the Author Note.

Authors of accepted manuscripts are required to transfer the copyright to APA.

- For manuscripts **not** funded by the Wellcome Trust or the Research Councils UK [Publication Rights \(Copyright Transfer\) Form \(PDF, 83KB\)](#)
- For manuscripts funded by the Wellcome Trust or the Research Councils UK [Wellcome Trust or Research Councils UK Publication Rights Form \(PDF, 34KB\)](#)

Ethical Principles

It is a violation of APA Ethical Principles to publish "as original data, data that have been previously published" (Standard 8.13).

In addition, APA Ethical Principles specify that "after research results are published, psychologists do not withhold the data on which their conclusions are based from other competent professionals who seek to verify the substantive claims through reanalysis and who intend to use such data only for that purpose, provided that the confidentiality of the participants can be protected and unless legal rights concerning proprietary data preclude their release" (Standard 8.14).

APA expects authors to adhere to these standards. Specifically, APA expects authors to have their data available throughout the editorial review process and for at least 5 years after the date of publication.

Authors are required to state in writing that they have complied with APA ethical standards in the treatment of their sample, human or animal, or to describe the details of treatment.

- [Download Certification of Compliance With APA Ethical Principles Form \(PDF, 26KB\)](#)
The APA Ethics Office provides the full [Ethical Principles of Psychologists and Code of Conduct](#) electronically on its website in HTML, PDF, and Word format. You may also request a copy by [emailing](#) or calling the APA Ethics Office (202-336-5930). You may also read "Ethical Principles," December 1992, *American Psychologist*, Vol. 47, pp. 1597–1611.

Appendix B: Excluded Studies and Rationale

Studies Excluded (No.)	Rationale for exclusion
<i>Abstract stage (total n=96 removed)</i>	
48	No measures taken (stress/anxiety or perfectionism)
13	Study explored parent-child dyads (or parental influence/perfectionism)
1	Self help literature (positive aspects of perfectionism)
4	Intervention study
1	Non-English paper
6	Scale validation
4	Focus on other presenting problems (major mental illness, etc)
8	Adult population only
4	Full book/book chapter
7	Review paper (not empirical research)
<i>Full read through stage (total n=31 removed)</i>	
3	Adult population only
3	Replicated research (in more than one paper)
4	Study explored parent-child dyads (or parental influence/perfectionism)
16	Anxiety/stress/perfectionism not adequately measured
1	Focus on other presenting problems (major mental illness, etc)
3	Non-English paper
1	Intervention study

Quality Criteria for Systematic Review

Version 3 (October 2016)

Systematic Review Question:

The Relationship between Perfectionism and Anxiety/Stress
in Children and Adolescents: A Systematic Review

	Quality Criteria
1	Focus of Question
2	Selection of Participants
3	Power
4	Outcome Measures
5	Statistical Analysis

Operationalisation of Quality Criteria

1. FOCUS OF QUESTION

1.1 The study addresses an appropriate and clearly focused question

Well covered (2)	The study refers to a clear question and conclusions state a clear answer to the question.
Adequately addressed (1)	The study refers to a question, however conclusions are vague and tenuous.
Poorly addressed (0)	The question is vague and therefore the premise for the study is unclear. Conclusions made are also vague as no links to a question are made.
Not addressed (0)	No question stated.
Not reported (0)	No question stated.
Not applicable (0)	
Notes	

2. SELECTION OF PARTICIPANTS

2.1 The sampling method ensures that participants selected are representative of an adolescent populations and can therefore be generalised.

Well covered (2)	The sampling method is clearly reported and attempts to control for any risks of bias. Appropriate inclusion/exclusion criteria are stated.
Adequately addressed (1)	Some elements of bias may be introduced and the inclusion/exclusion criteria may be deemed inappropriate or insufficient.
Poorly addressed (0)	Inclusion/Exclusion criteria is absent.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

2.2 The characteristics of participants are clearly stated and are representative of an adolescent population.

Well covered (2)	There is a comprehensive description of participant characteristics (gender, age, educational level, etc) and are representative of population.
Adequately addressed (1)	At least two relevant characteristics are described of the participants and are representative of population.
Poorly addressed (0)	One/no characteristics are mentioned or are representative of the population.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

2.3 The study states how many participants were invited to take part in the research and states the attrition rates.

Well covered (2)	Numbers are quoted about: how many were invited to take part, opt in and drop-out rates.
Adequately addressed (1)	Details given on at least two of the following: invited to take part, opt in or drop-out rates.
Poorly addressed (0)	One or none of the numbers are provided for invitations to take part, opt in or drop-out rates.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

3. POWER

3.1 Was a power calculation provided?

Well covered (2)	A power calculation was reported and was sufficient for the study design and outcome measure.
Adequately addressed (1)	A power calculation was not reported, but the study appeared to be adequately powered for the analysis undertaken.
Poorly addressed (0)	The study was not adequately powered for the analysis undertaken.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

4. OUTCOME MEASURES

4.1 Perfectionism is measured in a standard, valid and reliable way with an adolescent population.

Well covered (2)	The measure of perfectionism has been validated and is reliable for use with an adolescent population.
Adequately addressed (1)	The measure of perfectionism has been validated in other populations but has not been validated for use with adolescent

	samples.
Poorly addressed (0)	The measure of perfectionism has not been validated for use in any population.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

4.2 Stress is measured in a standard, valid and reliable way with an adolescent population.

Well covered (2)	The measure of stress has been validated and is reliable for use with an adolescent population.
Adequately addressed (1)	The measure of stress has been validated in other populations but has not been validated for use with adolescent samples.
Poorly addressed (0)	The measure of stress has not been validated for use in any population.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

4.3 Anxiety is measured in a standard, valid and reliable way with an adolescent population.

Well covered (2)	The measure of anxiety has been validated and is reliable for use with an adolescent population.
Adequately addressed (1)	The measure of anxiety has been validated in other populations but has not been validated for use with adolescent samples.
Poorly addressed (0)	The measure of anxiety has not been validated for use in any population.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	

Notes	
--------------	--

4.4 The assessment of outcome was made blind to the participants (this may not be applicable to some studies, for example, retrospective studies).

Well covered (2)	The participants are not aware of the purpose of assessment (independent variable).
Adequately addressed (1)	Some attempts have been made to make the outcome assessment blind to the participants and this is clearly discussed.
Poorly addressed (0)	There is no evidence of blinding.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

5. STATISTICAL ANALYSIS

5.1 The choice of data analysis is appropriate to the study design and outcome measures.

Well covered (2)	The analysis is appropriate to the study design.
Poorly addressed (0)	Inappropriate analysis is used.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	No (1) as selection of analysis should be justifiable and clear.

5.2 Possible confounding variables are considered and addressed within the study.

Well covered (2)	Possible confounding variables are discussed are identified and incorporated into the statistical analysis.
Adequately addressed (1)	Possible confounding variables are not incorporated into the statistical analysis but are discussed in the main text.
Poorly addressed (0)	Possible confounding variables are not considered or discussed and not incorporated into the statistical analysis.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

5.3 Have confidence intervals been provided?

Well covered (2)	Confidence intervals have been stated.
Adequately addressed (1)	Some reference is made to confidence intervals or a rationale for not including them is mentioned.
Poorly addressed (0)	No confidence intervals are provided.
Not addressed (0)	
Not reported (0)	
Not applicable (0)	
Notes	

Appendix D: Parental Information Sheet and Opt out form

Adolescents' self-kindness and their drive for high standards



Parent Information Form

My name is Kim Campbell and I am a Trainee Clinical Psychologist studying a Doctorate in Clinical Psychology at the University of Edinburgh. As part of my training I am carrying out a piece of research within High School. The school has given permission for this research to be conducted. This is an information sheet providing details of the research. At the end there are details of how you can choose to opt your child out of this research. If you do not complete this, I shall assume that you are happy for your child to participate.

What is this study all about?

My study is exploring the relationship between how adolescents complete tasks and their level of striving in doing this and how much they care for themselves within this process. These factors will be examined in relation to how they can impact upon stress responses.

Why is this study being conducted?

It is hoped that the information gathered will help us understand how these factors are related to each other. By exploring this area in more depth, it will help us develop better understanding of these factors, and such information could help us develop better support for adolescents.

Why has my child asked to be involved?

The study is with an adolescent school population between the ages of 14-18 and it was felt that High School is an appropriate environment to conduct such research.

Does my child have to take part?

NO. Your child can opt-out of this study if you wish. If you would like this option, please complete the form at the end of the information sheet and return to the address noted. Your child will also be asked to complete a consent form prior to participation, to ensure that they are personally happy to be involved. Your child is free to withdraw their participation at any stage of the research without giving a reason. If you have any other questions regarding this study, please contact the researcher directly on the details at the end of the information sheet.

What's involved?

Your child will be asked to complete five questionnaires, which will take roughly 30 minutes to complete. All questionnaires have been used with adolescents in previous research and are simple to complete. They will also be asked to provide some generic information about themselves, such as their age, ethnicity and gender.

This will be conducted during their normal school day at a date, time and location in agreement with the school so that disruption to normal activity is kept to a minimum.

Risks and Benefits of Taking Part

There should be no adverse risks to your child. They have the right to withdraw from the study at any time. Their responses will be completely anonymous.

There are no direct benefits to your child taking part in the research, it is anticipated that their responses will help to further research in this area. Based on feedback from previous studies, some adolescents report enjoying the process of taking part in research.

Confidentiality

As mentioned your child's responses will be completely anonymous. All questionnaires will be kept in a locked cabinet on NHS premises and will only be accessed by myself and the named supervisors listed below. Any electronic information will be stored in a password protected document.

What will happen to the results of the study?

The final project will form the part of the completion of a Doctorate in Clinical Psychology at the University of Edinburgh. It is anticipated that a summary of the results will be shared with the school (staff and participants). It is likely that a copy of the report will be held at the University and it is anticipated that general findings will be later published in academic journals. However, please be assured that the identity of participants will never be disclosed.

Review of the Study

The research has been approved by the relevant Research Ethics Committee of the University of Edinburgh and the City of Edinburgh Education Services. As mentioned, the remit of the study has also been discussed and agreed with the school.

What if there is a problem?

If you are worried about anything to do with the research, please do not hesitate to contact Kim Campbell or supervisors (see contact information below). We will do our best to answer your questions. If you are still unhappy and would like to raise a formal complaint, please contact the Research Ethics Committee of the School of Health in Social Science, University of Edinburgh, Teviot Place, Edinburgh, EH8 9AG, Tel: 0131 651 3969

Further Information and Contacts

If you wish to discuss further please contact the names below:

Main Researcher:

Kim Campbell

Paediatric Psychology and Liaison Service (PPALS)

Royal Hospital for Sick Children

Edinburgh
EH9 1LL
Tel: 0131 5360535
Kim.Campbell@nhslothian.scot.nhs.uk

Clinical Supervisor:

Dr Helen Griffiths
Consultant Clinical Psychologist
CAMHS Tipperlinn
Royal Edinburgh Hospital
EH10 5HF
Tel: 0131 5376364
Helen.Griffiths@nhslothian.scot.nhs.uk

Academic Supervisors:

Dr Stella Chan (Stella.Chan@ed.ac.uk, Tel: 0131 6513935)
Dr Emily Taylor (Emily.Taylor@ed.ac.uk, Tel: 01316503892)
Lecturers in Clinical Psychology
Section of Clinical Psychology
School of Health and in Social Science
University of Edinburgh
Teviot Place
Edinburgh
EH9 9AG

Parental Opt-out Form

Please note that if you do not complete this form, it will be assumed that you are happy for your child to participate in the study of the research described above.

I request that my child is opted-out of the research project - Adolescents' self-kindness and their drive for high standards being conducted by Kim Campbell at High School.

Please provide the name of your child and their year group:

Name: _____

Year: _____

Please return this form to Kim Campbell via your child's teacher.

Appendix E: Participant Information Sheet and Consent Form



Self-kindness, Personality and Well-Being in Young People

Participant Information Sheet

My name is Kim Campbell and I am a Trainee Clinical Psychologist studying a Doctorate in Clinical Psychology at the University of Edinburgh. As part of my training I am carrying out a piece of research within your school. The school has given permission for this research to be conducted. This is an information sheet providing details of the research. At the end there is a consent form for you to complete as well as asking whether you would be interested in volunteering for a second study at a later stage.

What is this study all about?

This study is exploring the relationship between how adolescents complete tasks and their level of striving in doing this and how much they care for themselves within this process. These factors will be examined in relation to how they can impact upon stress responses.

Why is this study being conducted?

It is hoped that the information gathered will help us understand how these factors are related to each other. By exploring this area in more depth, it will help us develop better understanding of these factors, and such information could help us develop better support for adolescents.

Why have I been asked to be involved?

The study is with an adolescent school population between the ages of 14-18 and it was felt that the school is an appropriate environment to conduct such research.

Do I have to take part?

NO. You don't have to take part if you don't want to. Just **do not** complete the consent form at the end.

What's involved?

You will be asked to complete five questionnaires, which will take roughly 20-30 minutes to complete. All questionnaires have been used with adolescents in previous research and are simple to complete. You will also be asked to provide some generic information about yourself, such as your age, ethnicity and gender. This will be conducted during your normal school day at a date, time and location in agreement with the school so that disruption to normal activity is kept to a minimum.

Risks and Benefits of Taking Part

There should be no adverse risks to you. You have the right to withdraw from the study by indicating to the researcher that you no longer would like to take part. You can stop taking part at any time without having to give a reason. Your responses will be completely anonymous. There are no direct benefits to you taking part in the research, it is anticipated that your responses will help to further research in this area. Based on feedback from previous studies, some adolescents report enjoying the process of taking part in research.

Confidentiality

As mentioned your responses will be completely anonymous. questionnaires will be kept in a locked cabinet on NHS premises and will only be accessed by myself and the named supervisors listed below. Any electronic information will be stored in a password protected document.

What will happen to the results of the study?

The final project will form the part of the completion of a Doctorate in Clinical Psychology at the University of Edinburgh. It is anticipated that a summary of the results will be shared with the school (staff and participants). It is likely that a copy of the report will be held at the University and it is anticipated that general findings will be later published in academic journals. However, please be assured that the identity of participants will never be disclosed.

Review of the Study

The research has been approved by the relevant Research Ethics Committee of the University of Edinburgh and the Lothian Education Services. As mentioned, the remit of the study has also been discussed and agreed with the school.

What if there is a problem?

If you are worried about anything to do with the research, please do not hesitate to contact Kim Campbell or supervisors (see contact information below). We will do our best to answer your questions. If you are still unhappy and would like to raise a formal complaint, please contact the Research Ethics Committee of the School of Health in Social Science, University of Edinburgh, Teviot Place, Edinburgh, EH8 9AG, Tel: 0131 651 3969

Further Information and Contacts

If you wish to discuss further please contact the names below:

Main Researcher:

Kim Campbell
Paediatric Psychology and Liaison Service (PPALS)
Royal Hospital for Sick Children
Edinburgh
EH9 1LL
Tel: 0131 5360535
Kim.Campbell@nhslothian.scot.nhs.uk

Clinical Supervisor:

Dr Helen Griffiths
Consultant Clinical Psychologist
CAMHS Tipperlinn
Royal Edinburgh Hospital
EH10 5HF
Tel: 0131 5376364
Helen.Griffiths@nhslothian.scot.nhs.uk

Academic Supervisors:

Dr Stella Chan (Stella.Chan@ed.ac.uk, Tel: 0131 6513935)
Dr Emily Taylor (Emily.Taylor@ed.ac.uk, Tel: 01316503892)
Lecturers in Clinical Psychology
Section of Clinical Psychology
School of Health and in Social Science
University of Edinburgh
Teviot Place
Edinburgh
EH9 9AG

If you would like to take part please complete the following consent form confirming that you have read and understood this information before proceeding with the questionnaires.

Appendix E Cont.

Self-kindness, Personality and Well-Being in Young People



Participant Consent Form

I consent to take part in this study and I understand the following (please tick):

- I understand that taking part in this research is completely voluntary ☐
- I have read the information provided and I am aware of what my participation will involve. ☐
- I understand that I can stop and withdraw from the study by letting the researcher know that I no longer wish to take part. ☐
- I understand that all information that I give will remain private and confidential. ☐

Initials:

Date:

Appendix F: Participant Debriefing Form



Self-kindness, Personality and Well-Being in Young People

Participant Debriefing Form

Thank you for taking the time to complete the questionnaires. Sometimes filling in questionnaires can make you more aware of your feelings. If you experience some difficult feelings or experience a lot of stress, it is often helpful to talk to your parents or teachers about this. It may also be useful to talk to your GP.

Should you feel that you would like additional support, please see the details of organisations below that may be able to help.

Breathing Space
0800 838587
<http://breathingspace.scot/>

Childline
0800 1111
www.childline.org.uk

Samaritans
08457 909090
www.samaritans.org

Youngminds
<http://www.youngminds.org.uk/>

Appendix G: Ethics Approval Letters

07 October 2015

Dear Kim,



Application for Level 2/3 Approval

Project Title: Exploring the role of self-compassion and perfectionism
in the prediction of psychological distress, stress
reactivity and psychological well-being

Academic Supervisor(s): Stella Chan / Emily Taylor

Thank you for submitting the above research project for review by the
Department of Clinical and Health Psychology Ethics Research Panel. I
can confirm that the submission has been independently reviewed and
was approved on the 30th September 2015.

Should there be any change to the research protocol it is important that
you alert us to this as this may necessitate further review.

Yours sincerely,

Kirsty Gardner

Administrator

Clinical Psychology

Appendix G Cont.

Kim Campbell
29 Mary Slessor Wynd
Burnside
GLASGOW
G73 5RJ

Date 12 November 2015

Your ref

Our ref SCS/JAI

Direct dial 0131 469 3162

Dear Kim

I am writing in response to your application requesting permission to undertake research in schools in The City of Edinburgh.

Your request has been considered, and I am pleased to inform you that you have been given permission in principle to undertake your research. I must stress that it is the policy of this Authority to leave the final decision about participation in research projects of this kind to Head Teachers and their staff, so that approval in principle does not oblige any particular establishment to take part.

I request that you forward a copy of your completed findings to me when they become available. In this case an electronic summary of your thesis would be preferred. Your work may be of interest to a number of staff in the Children and Families Department.

I would like to thank you for contacting the Children and Families Department about your work, and wish you every success in the completion of your project.

Yours sincerely



JULIE INNES
Administrative Officer

Business Support, Schools and Community Services, Children and Families

Level 1.2, Waverley Court, 4 East Market Street, Edinburgh, EH8 8BG

Tel 0131 469 3162 Fax 0131 529 6212 E-mail julie.innes@edinburgh.gov.uk

Appendix H: Additional Statistics

Table H.1: Skewness and kurtosis, standard error (SE) and z-scores

Variable	Skewnesss Value	Skewness SE	z-score skewness	Kurtosis Value	Kurtosis SE	Z-score kurtosis
HADS - Anxiety	-.172	.214	-.172	-.693	.425	-.693
HADS - Depression	.480	.214	.480	-.246	.425	-.246
HADS - Total score	.095	.214	.095	-.392	.425	-.392
SCS	.176	.215	.176	-.136	.427	-.136
CAPS	-.135	.214	-.135	-.777	.425	-.777
BBCWBS	.016	.214	.016	-.449	.425	-.449
ACOPE	.095	.214	.095	-.525	.425	-.525